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# Audubon

## MAGAZINE

Volume 52  
Number 1

*Indexed in the Reader's Guide to Periodical Literature*

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## Letters

### Memorial Tribute to Frank M. Chapman

Mrs. Elsie M. B. Naumburg, Research Associate of the American Museum of Natural History, New York City, recently sent *Audubon Magazine* a circular announcing an ornithological research fund established in memory of the late Frank M. Chapman.\*



Photograph of Frank M. Chapman.

ornithologist and founder of *Bird-Lore*, now *Audubon Magazine*. Dr. Chapman was one of the original directors of the National Audubon Society and served on the Board for 32 years. From the circular we quote, in part:

"It was to perpetuate Dr. Chapman's memory and to continue his influence that the Frank M. Chapman memorial was founded shortly after his death. Mrs. Elsie M. B. Naumburg, a Research Associate in the Museum's Department of Birds, and her husband, Mr. Walter W. Naumburg, made at that time an initial contribution of \$5,000, which has since grown to about

Turn to Page 4

\*See, "Frank Michler Chapman—1864-1945" by Ludlow Griscom, *Audubon Magazine*, January-February 1946, pp. 49-52.

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\$20,000. It is hoped that this sum may be increased to \$100,000, and the income used in perpetuity to further ornithological research in addition to that provided for in the regular budget of The American Museum of Natural History. It is felt, moreover, that many ornithologists and nature-lovers will wish to have a part in furthering such ends through contributions to the Chapman Memorial.

"Prior to this statement, no appeal for contributions has been made. Neither has there yet been an appropriation from the modest income of the invested capital. But, with the return of the world toward a peaceful state, the time for action has arrived, and Dr. Chapman's friends are of one mind in believing that the assurance of continued research will constitute a more fitting tribute to his memory than any architectural monument that might be devised."

Anyone wishing to contribute to the Chapman Memorial Fund, or to learn more about it, should write to Mrs. Naumburg.

### Cruikshanks Honored Again

Recipients of the John Burroughs Medal for their book, "Flight Into Sunshine," Helen G. and Allan D. Cruikshank have recently received a silver medal from the Société Provancher d'Histoire Naturelle du Canada. The honor cites the Cruikshanks,



Photograph of Allan and Helen Cruikshank by Edwin Way Teale.

the first non-Canadians to receive it, for their all-around outstanding work in natural history, particularly for their accomplishments in field ornithology, lectures with color films, photographs in many books and magazines and their authorship and illustration of "Birds Around New York City," "Bird Islands Down East," "Wings in the Wilderness," and "Flight Into Sunshine."

## Letters to the Editors

### Hawk Defender

I am enclosing a photograph of a pet hawk of mine. I have had him about a year now, and he is as gentle as any young kitten. This hawk is a western red-tail. I found him in a grove of willow trees where he had fallen out of a nest.

I think that the persecution of these hawks is a disgrace to American intelligence. These hawks are not only beneficial to the Ameri-



Robert Prusso with his pet red-tailed hawk.

can farmer and gardener, but I think they are a sight to behold as they sail and soar high in the air, for these birds have done what man has tried for ages to accomplish. Perhaps the American sportsman needs a little knowledge of the word conservation, for in him is the one hope of survival of these magnificent birds.

ROBERT PRUSSO

Livingston, Calif.

*Continued on Page 65*



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*Drawings by Robert F. Seibert*

**By Haydn S. Pearson**

**A**FTER celestial gears have meshed and the sun has started its climb back to the pole of the horizon, man knows the great rhythms are proceeding on schedule. Earth's breast is frozen in northern climes and her pulse is slow and faint; but a rest time is part of the ordained cycle. Uncounted billions of roots are safe in the humus; billions of seeds, each with its chromosomes ready for a complete new plant if conditions be favorable, are waiting for time to be fulfilled.

According to man's calendar January and February are the heart of winter. When the molecules in water vapor readjust and temperature conditions are right, snow falls to cover the patiently waiting land and weaves beauty on white hills. Man's spirit lifts after the solstice is past and days are climbing uphill to spring. There are those who do not care for the first two months of the year; but he who has the seeing eye and sensitive heart knows that winter has its necessary place.

Each profound rhythm of the circling year must be given its full turn.

This is a time to walk in remembrance on the land. Go to the meadows and mowings on a pewter-gray day or in the peculiarly brilliant light of a cloudless midwinter day. One can read the past, the present and the fu-



ture. Grasses and weeds hold feather-like heads above the snow; only a few months ago they were green-stemmed, blossoming and maturing seeds. Summer breezes wafted pollen of the

grasses from anthers to pistils. There were flowers here, starring the warp and woof of the grass carpet, and bees and butterflies harvested the nectar and transferred life-continuing pollen. Now some of the seeds are dark spots in the snow and mice and pheasant tracks tell of early morning excursions.

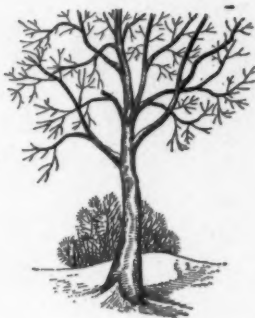
No time of year in a woodland is more interesting than the heart of winter. Bark patterns on the boles are distinct and each limb and twig is sharply silhouetted against the sky. It is strange that so few nature lovers have made a study of buds on trees and shrubs. Each species has its own shape, color and wrapping conforma-



tion. Take a hand lens with you and study the shades of the tightly-protected capsules. Man should always be humble in the presence of nature's plans; as one looks at the buds he realizes that here are the leaves and fruits of another season.

Many forms of wildlife are hibernating. Woodchucks and chipmunks are in their underground tunnels; gray squirrels sleep in their bulky nests in tree crotches; raccoons are

curled in hollow trees and queen bumblebees are beneath logs and leaves. Muskrats are in their domed igloos in the swamps, and turtles are sleeping in the mud around the ponds and along meadow creeks. But the rabbits,

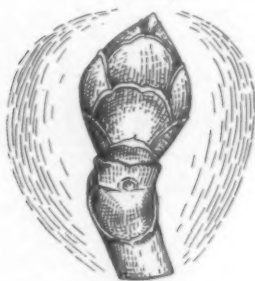


red foxes and deer are about. Partridges bud the trees when snow is deep; the cheerful voice of the chickadee is welcome when a man is exploring the woodland or working in the orchard.

There are stories to be read in the snow when a storm has cleared. Go to the swamp where cattail heads are unraveling in the wind and last year's nests of the paper hornets are swaying from the tips of gray birches. You may see the place where the "long ears" held a ballet at dawn. The rabbits leaped and twisted and turned and the pattern of their trails is labyrinthine. Beneath the branches of wild apple trees you will see where the white-tailed deer came to paw away the snow and search for apples. And perhaps you will see a few drops of congealed scarlet blood, bright against the whiteness with nearby tufts of brown-gray fur. A red fox on his morning round made a meal here. It is not tragedy; it is part of the great, mysterious plan we call "Balance of Nature."



Heart of winter is a period of great simplicity—a time when the stark realities write their paragraphs in Year's beginning book. There is no clear-cut beginning and no definite ending to



nature's seasons. If one climbs to an upland height on a bright winter day when snow is deep on the land, he can see and feel the beauty that is part of Year's rest time. One can also feel the making of a storm and read the posted signs. Cumulus clouds give way to cirrus, cirrus to stratus and these in time darken to nimbus. Grayness broods on the countryside and heavy clouds wrap themselves like mufflers around the mountain heights. There is waiting silence as the first flakes wander to earth; then the tempo quickens. As the storm thickens, the wind begins to

freshen and at night a man listens to the moans around the northeast corner of the house.

This is nature's period of rest. Storms are interspersed among bright cold days and thawing spells. As February comes in and the sun climbs higher, one catches the first hints of spring. A thaw may widen a belt of soil along the south sides of woodlots; blue jays scream hopefully; at month's end a few woodcocks appear in pasture



ravines. February hints at spring that is near, but this is still winter.

The wise man takes the seasons as they come. Each time of year has its destined purpose and its beauty.

#### **Dates for Third Winter Bird-Population Study**

December 25th through February 7th (minimum of 8 trips)

Observers in southern states should take a minimum of 6 trips, preferably all in January. Late December or early February trips may be included in the South only if no evidence of migration is noted in the study area.

See July 1947 issue of Audubon Field Notes for details.

# CROSSBILLS— Unpredictable Birds of the North



The song of the red crossbill, though not as musical as that of the white-winged, is a series of rich trills and liquid warbles, usually delivered from the top of a spruce.

**By Allan D. Cruickshank**

*With photographs by the author.*

**After absences of eight or nine years, crossbills may suddenly return to our northern states.**

**B**OTH the red and the white-winged crossbills are so erratic in their movements that their status for any one summer around the Audubon Nature Camp in Lincoln County, Maine, is unpredictable. Ordinarily they are very rare here and when with us are

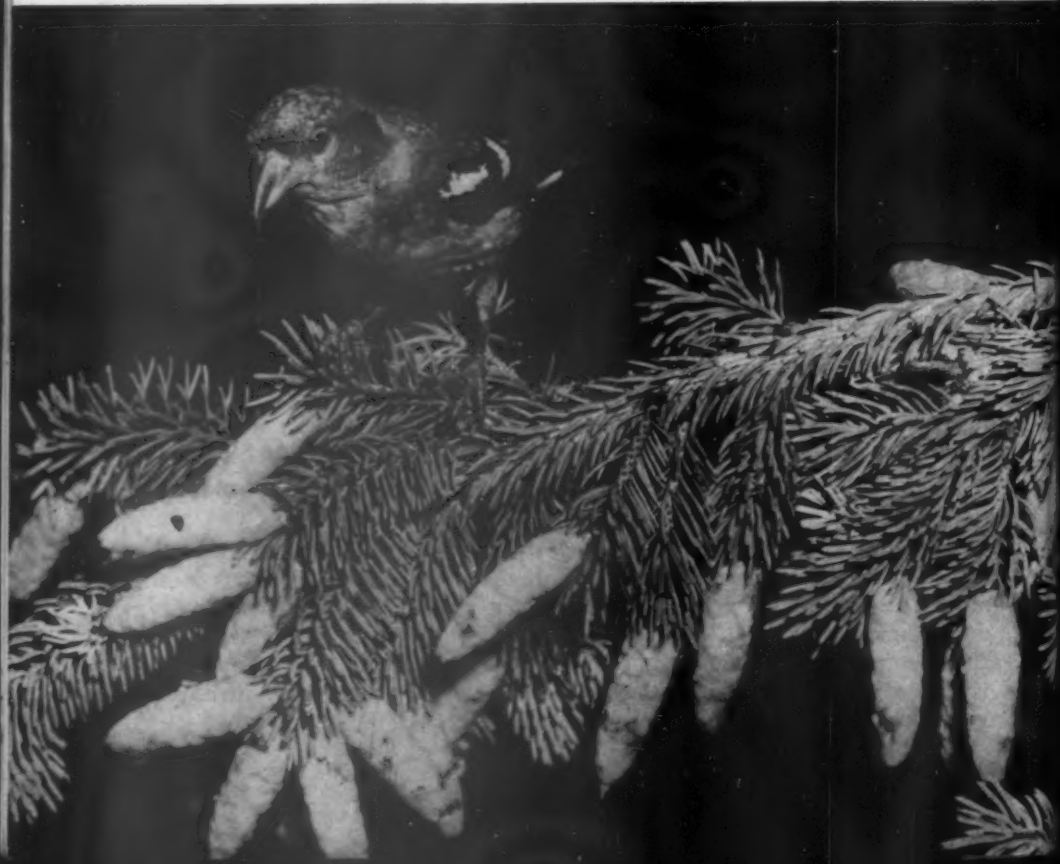
usually confined almost exclusively to the predominantly coniferous country along the Lincoln County coast. Many years we have only one or two records for the entire summer, but periodically there are impressive invasions of crossbills.

On July 18, 1937, a light influx of red crossbills arrived in the Audubon Nature Camp area and the species was fairly common there for the rest of the summer. We found no nests, but the birds unquestionably bred as they were seen courting and carrying nesting material. In 1938 a heavy flight of white-winged crossbills arrived on July 4. Although they were numerous for the rest of the summer, we could find no positive evidence that they were nesting. On June 29, 1940, a heavy flight of white-winged crossbills accompanied by a smaller number of red crossbills reached our section of the Maine coast. For the rest of the summer both species were common all along the coastal strip and on

the spruce-coated islands offshore. During August we saw two pairs of white-wings feeding their young on the Audubon Peninsula of Hog Island. In the summer of 1946 we noted a light influx of red crossbills.

Then on June 25, 1949, the largest invasion of crossbills reached Lincoln County since the Audubon Nature Camp was established there in 1936. The birds were widely distributed, occurring even in coniferous groves far inland. Along the coastal strip and on offshore islands, where both red and white spruce trees predominate, the birds were abundant. As in 1940, this great flight brought large numbers of both red and white-winged crossbills, the latter species decidedly predomi-

**During the great invasion of crossbills in Maine in the summers of 1940 and 1949, in which the white-winged (below) predominated, spruce cone crops were the largest seen in years.**



nating. It should be pointed out that in all summers when crossbill flights took place the local cone crop was very large\* and that during the summers of 1940 and 1949 when the greatest flights took place, the spruce cone crops were the heaviest I have seen on the coast of Maine. This observation presents an interesting correlation. Regarding the white spruce, G. H. Collingwood in "Knowing Your Trees" states: "In New England heavy seed crops are borne at intervals of about eight years." Our two big flights were nine years apart. On this basis it might be safe to predict that our next major flight will come in 1957 or 1958.

Throughout July and August, 1949, the songs of crossbills were among the most conspicuous sounds on the Todd Wildlife Sanctuary where the Audubon Nature Camp is located. The call notes of the two species often overlap and are sometimes inseparable, but the white-wing usually gives a soft "chif-chif-chif—chif-chif-chif," the red a sharper more emphatic "jip-jip—jip-jip." Moreover the white-winged crossbill frequently intersperses soft sweet canarylike "peets" while the red crossbill occasionally includes a short melow warble reminiscent of the call of a young purple finch. Both species have beautiful songs but I rate the white-wing's rendition superior. It can best be described by asking one to imagine a bird with the sweet voice of a junco giving the full song of a vociferous canary. It is delivered either from the top spire of a spruce, or skylark-fashion as the bird on vibrant wings bubbles over with enthusiasm



Young crossbills are still fed by regurgitation for some time after they leave the nest. The bill of the young white-winged (above) has not yet crossed.

above the conifers. It often begins with soft sweet trills swelling to loud clear canarylike choppings and rolls. There is a great deal of movement to the music. At times the rapidity and volume diminishes until one is certain that the song is about to stop, then suddenly it swells into another long, loud, vigorous outburst. Although the red crossbill could not successfully compete with the white-wing in musical ability, it is a top performer. The song is shorter, made up of a ser-

\* In an interesting paper, *The Red Crossbill at Pimisi Bay, Ontario*, by Louise de Kiriline Lawrence, *The Canadian Field Naturalist*, July-August 1949, Mrs. Lawrence points out that the irregular appearance of red crossbills in that region is apparently influenced by the winter supply of evergreen seeds. See also her article, "Winter Birds at the Lighthouse," *Audubon Magazine*, November-December 1949.

ies of rich trills and liquid warbles and is usually delivered from the top of a spruce, but occasionally on fluttering wings above the forest.

Both species are restless and unpredictable. A feeding flock working industriously on spruce cones might suddenly explode into the air with excited chatter and a long undulating flight over the woods or across the bay to a neighboring island. Sometimes both the red and white-winged occur in a flock, but ordinarily each species tends to stay with its own kind.

We had excellent opportunities to study the feeding habits of these interesting birds. We noted that they held spruce cones deliberately with one foot and clipped them off with the bill. Usually three pinches of the bill were necessary to dislodge the cone whereupon it was held firmly against the branch and worked over. With amazing rapidity the bird would use its unique bill to pry up each scale. Apparently the tongue and lower mandible were used to extract the seed. The whole performance was so rapid that it was impossible to see details. Thin bits of seed wings constantly fluttered to the ground as the birds ate. As soon as all the scales had been pried up and the seeds were removed, the cone was dropped.

During late August the red squirrels also were busy dropping cones to the ground, but even in the dense woods we could tell which worker was above us. The squirrel dropped smooth, resin-coated cones with each scale in place; the crossbills dropped cones that had each scale elevated. I have never seen crossbills eating any other seeds but those of spruce, balsam and pine, although I have been told that they occasionally do so. Birds coming down to my birdbath often landed on an adjacent feeding log but

paid no attention to the quantities of sunflower seeds, cracked corn, millet and other grain sprinkled there. From time to time we watched crossbills industriously examine lichen-coated branches but we could never be positive what they were after. They were obviously feeding, and I suspect, upon small insects during which the bill was always held sideways probably enabling the tongue to gather the food. Frequently crossbills were flushed from fucus and beaded rockweed (kinds of algae) and from gravel exposed at low tide along the shores. Although definite proof is lacking I suspect the birds were after salt. I know that they ate some of the gravel and grit during these activities.

Anyone who has been in crossbill country knows that they are very fond of water. A crossbill does not drink in the manner of most birds. Instead of dipping its bill in the water and raising its head high after each sip to let the water run down the gullet, the

Both the red crossbill (below) and the white-winged breed most abundantly in the spruce belt of Canada. The nest of the red crossbill is thickly lined with moss, hairs and sometimes feathers; the female incubates the eggs; the male feeds her by regurgitation as she sits on the nest.





crossbill dips its bill in the water at an angle, at times almost sideways, and apparently laps the water up with its tongue. The bird occasionally raises its head while drinking but this seems to be for inspection of the area and not as an aid in swallowing.

In the dense spruce woods of our region, nests are very difficult to find. Mr. Roland Clement and I tried to plot territories by the usual methods used for most birds but we found this to be impossible. At times, with the white-winged crossbill at least, there seem to be ceremonial gatherings with a few females feeding or looking on unconcernedly while a greater number of males excitedly sing and flutter overhead. Sometimes we watched a male singing above a female and we felt sure that we had a clue to a territory. The next minute a large flock would settle in the trees and soon depart with the two birds we had been watching so carefully. Groups of heavily streaked immature birds arrived with each flight; each time we saw these birds it made us feel that the nesting season was over and that our search for nests was useless.

On July 5 we saw a female red crossbill pulling shreds of bark from a dead deciduous tree. Surely we were about to discover the site of a nest! The male perched nearby giving close attention to its mate's efforts but made no attempt to help her. Presently the female, with a bill full of nesting material, flew far down the shore and disappeared over the woods with the male following closely. Later at scattered points both red and white-winged crossbills were seen collecting usnea lichen, twigs, moss and strips of bark. One day I watched a male white-winged crossbill fly to a begging female and regurgitate some food into her gaping mouth. On three occasions

I saw pairs of white-wings go through coition. The act was always the same. As the male sidled up the branch the female crouched and fanned her wings whereupon the male mounted with his tail sharply depressed and his half-raised wings vibrating.

But it was not until August 22 that Dr. Jack Arnett discovered the nest of a red crossbill 65 feet up in a tall slender red spruce on the Audubon Peninsula of Hog Island. He found the treasure by watching the female carry usnea lichen to the site. Unfortunately the nest was halfway out on a very thin branch and so well concealed that careful study was impossible. We did not find a white-winged crossbill nest, but on August 24 we saw several pairs feeding young on Harbor Island. Both the male and female took turns feeding by regurgitation.

Apparently three young is the average number in a brood. With the aid of a butterfly net we managed to catch one brood of three and banded them. At this time the young were chiefly grayish brown, heavily streaked and siskinlike. The wing bars were conspicuous, the eyes dark, the bill barely crossed and quite yellowish.

As 1949 was one of the warmest, driest summers on record for our region, virtually all of the pools that usually stipple the Todd Wildlife Sanctuary dried up. Knowing the crossbill's love for drinking water, I quickly set out a birdbath with my observation blind only three feet away. In a few days both species were coming down to the offering and perching on the branches I placed over the bath. Careful planning and patience, the two major essentials in bird photography, soon brought the reward. In a few weeks I had pictures of both red and white-winged crossbills.

# The Camargue—

"EVERGLADES" OF SOUTHERN FRANCE

In the Rhone Valley, a great European nature reserve

By Georges Olivier

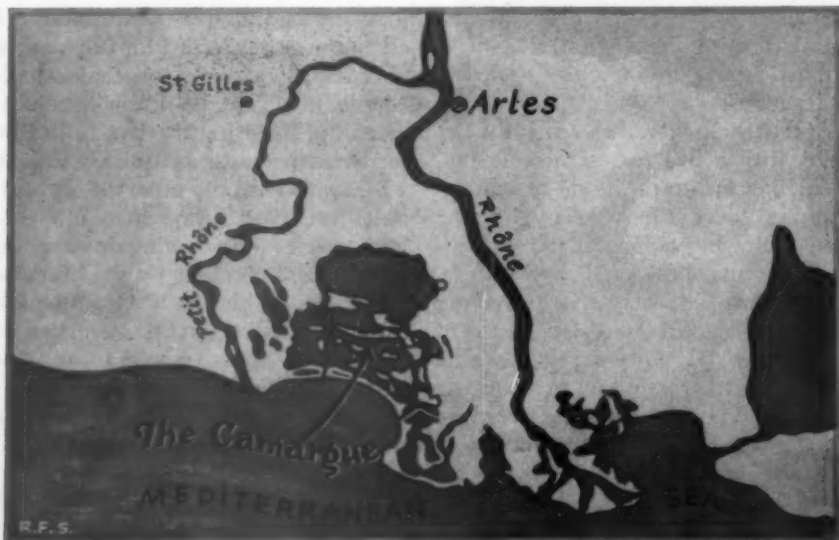
has one of the world's large

JUST as the Everglades of Florida and the marshes of coastal Texas are sub-tropical, so are a few spots along the Mediterranean shores of Europe. Their flora and fauna seem more African than European. In western Europe only two such areas exist: the Guadalquivir Marismas in Spain, and the Camargue, between the two main branches of the Rhone River, in France. In both places many species of birds live and breed, which are unknown elsewhere on the continent.

The Camargue is a large, triangular alluvial island of 190,000 acres limited by the two main streams of the Rhone and the sea. Outside there is a curiously arid, stony plateau called the Crau. Here desert birds, otherwise found only in Africa, live far from this

peculiar terrain; for example, two species of sand-grouse.

The Camargue island itself is mostly a vast salt marsh, with great shallow lakes and innumerable waterways reminiscent of the "bayous" of Louisiana. There are trees along the freshwater ditches—old elms, poplars, alders, willows and ashes. Thickets of scrub oak, privet, hawthorn, and red-barked dogwood constitute a thick cover in places, and large tamarisks grow everywhere along the banks. A rich vegetation of rushes, reeds and various water plants grow six feet tall in shallow ponds that are not too brackish. Where salinity is strong, a special carpet of halophyte plants, mostly sea-lavenders (*Statice*) and





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## largest flamingo colonies.

The little egret builds its nest of twigs in high vegetation along the banks of the Rhone Delta.

*All photographs by G. K. Yeates.*

The Sigoulette Marsh in the Camargue is, perhaps, most densely populated by birds.



♦ Mr. G. Fallon, refuge naturalist, lives at Arles, from where one may drive or hire a taxi to travel less than 20 miles to the Camargue. Arrange-

ments to visit the area should be made in advance by writing to Professor C. Bressore, Director de l'Ecole National Veterinaire, Alfort, Seine.

glasswort (*Salicornia*), hides the white soil, while the strongly brackish water contains only *Phragmites* (reeds) and *Scirpus* (club-rushes). These salty areas, which constitute the wider part of the Camargue, give it a peculiar, monotonous aspect—flat, open and treeless—with a low vegetation and numerous pools and canals.

Naturally the Camargue has long been attractive to naturalists. Not only are unusual creatures to be seen, but the number of bird species occurring there is exceptionally high for Europe. More than 100 species are nesting, and about 200 species may be seen during migration. Mammals, however, are neither so numerous nor so interesting as the birds, although the European beaver is making its last stand in western Europe in the Rhone delta. Wild boars and red foxes are plentiful and there are many rodents. Reptiles are well represented by several species of large grass snakes and lizards. Insects are also abundant, and during the summer mosquitoes and flies may be most disturbing to visitors. Several species are peculiar to the area,

a rare juniper beetle (*Ernobium juniperi*) being conspicuous among them. A feature of the Camargue is the herds of feral horses and cattle, both belonging to very old domestic breeds, probably not very different from their wild ancestors. They are controlled by picturesque mounted herdsmen, who remind one of cowboys of western America. For centuries they led a similar life before America was discovered.

A great feature of the Camargue is a primeval wood (*Bois des Rieges*) of large Phoenician junipers, mixed with many interesting evergreen shrubs, herbaceous plants and vines, which stand on a sand dune in the middle of the largest of the salt lakes—the Vaccarés. The whole flora is indigenous, except for two American imports now widely naturalized: false indigo, (*Amorpha fruticosa*) and an aster (*Aster squammata*).

The climate of the Camargue is changeable. It is usually mild like the southern United States but it can be cold and windy during the winter, and in severe seasons many ponds and lakes may have some ice for a few days.

Flamingos with their young.



Summers are hot and sultry and on the whole the climate is much like that of southern Louisiana.

Birds probably are the most interesting and conspicuous creatures of this strange country. The most striking is the flamingo. Not as vividly red as its American brother, the old world flamingo is nevertheless very beautiful—a light pink with deep crimson and black wings. It is found in suitable places in Africa and Asia, but in Europe is practically restricted to the Camargue, the Marismas and perhaps a few other spots which it visits irregularly. In summer, some 10,000 can be seen in and around the Vaccarés. Only a few hundred remain during the winter. Flamingos nest in the Camargue only when water depths are favorable, as in 1948 when hundreds were successfully reared.

A number of herons also nest in the Camargue, including the lesser egret, a close relative of the American snowy; the purple, black-capped night and squacco herons; the great and little bittern.

Ducks are numerous. Two species rarely found in France are resident



The hoopoe, one of the most beautiful birds of France, arrives at the Camargue from Africa in March, and leaves in August and September. Nesting in old trees, walls, and sometimes in the underground burrows of rabbits, its strange song is often referred to as "The Call of Africa."

A small part of "Flamingo City," deserted after the nesting season is over.







**A penduline-tit alights on the edge of its nest built in the branches of a tamarisk bush.**



**A black-winged stilt returns to its nest to incubate its four eggs.**

and nest: the beautiful red-crested pochard, in large numbers; the dainty and rare marbled teal, sparingly. Curiously enough, species which usually breed much farther north also nest more or less regularly: sheldrake, mallard, gadwall, shoveller and pintail, green-winged and gargancy teals. Marsh hawks of three species also breed and many other birds of prey are present, as well as the white vul-

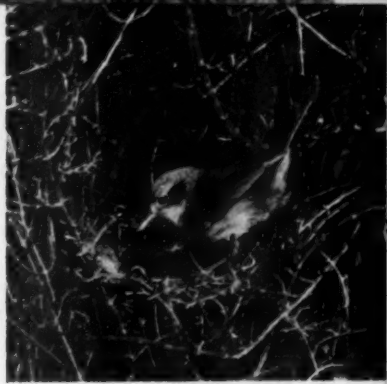
ture (*Neophron percnopterus*). Glossy ibises are found occasionally. Special mention must be made of the swallow-tailed pratincole (*Glareola pratincola*), a smart, short-billed wader which had practically disappeared in the last century, but has come again to nest since protection is afforded it. It is very rare elsewhere in France. Other breeders are the avocet and stilt; also gulls and several terns.

**Bee-eaters, like American bank swallows, lay their eggs in holes in an embankment.**





The beautiful pratincole is now nesting in the Camargue because of the protection afforded it there.



The spectacled warbler raises her brood in a clump of saltwort.

The trees and bushes are frequented by songbirds including six species of warblers, the wonderful little penduline tit which weaves an extraordinary hanging purselike nest, and four species of shrikes. The spectacled warbler nests in the salicornias, and in the reeds the lovely and local reedling (*Panurus biarmicus*), three reed-warblers and Cetti's warbler. Nightingales are particularly numerous in



Bee-eaters, another "bird jewel" of the Camargue, are called "Chasseur d'Afrique" from their bright colors which resemble those of the uniforms of a French cavalry division by that name.

the bushes along the canals and sing melodiously from April till mid-June. The horned lark was observed in 1947 for the first time.

It is quite impossible to give here a complete idea of the extraordinary birdlife of the Camargue and we shall close our list in mentioning four conspicuous showy non-passerine species, rare in western Europe: the spotted cuckoo (*Clamator glandarius*), a

large, crested, brown-and-white spotted bird, parasitizing the crows; the fine blue and cinnamon roller (*Coracias garrulus*), nesting in old crevassed trees; the lovely bee-eater (*Merops apiaster*), blue, green, yellow, and chestnut, colonies of which rear their broods in tunnels which they dig in banks, and the elegant hoopoe (*Upupa epops*), a salmon-pink bird with black-and-white barred wings and tail and a large fanlike crest, also a denizen of tree holes and crevasses in rocks and walls during the breeding season.

All these birds and many others have long maintained themselves in this rather sterile, inhospitable area which always has had a scanty human population mostly confined to scattered farms. The resident birds have declined during the last century, also the innumerable migrants which stop at the Camargue on their way to and from Africa. They were increasingly disturbed by hunters and a large chemical plant established nearby.

Something had to be done to save this bird paradise. The *Société d'Acclimatation de France*, the leading French group of nature lovers, founded in 1854, succeeded after many years in establishing in 1928 a

25,000-acre refuge of land and water in the heart of the Camargue belonging to the chemical company of "Alais, Froges et Camargue." Since then, the area has been managed by a trained naturalist and several game wardens. There are camps and rest-houses for visitors and students, as in similar refuges in America. The results have been encouraging, for despite numerous difficulties, the birds have greatly increased. Plants and other forms of wildlife also have been carefully protected. The *Société* is enabled to take care of the Camargue Reserve through governmental and private donations. They act in close cooperation with the government agency in charge of the preservation of animal life, the *Service de la Chasse* of the Ministry of Agriculture, a branch of the Waters and Forests Department.

Since the establishment of the refuge, many French and foreign naturalists have visited the Camargue under the care and with the help of the staff. We hope that all Americans interested in wildlife and the outdoors in general, who are going to Europe, will not forget to take a look at this extraordinary sample of the old world temperate and semi-tropical wildlife.

### Nesting Box Campaign Helps Wood Ducks

NESTING boxes set out throughout the Northeast have been occupied heavily by wood ducks during the breeding season of 1949. Fully 90 per cent of all nesting boxes put out in Massachusetts, New Hampshire, Pennsylvania, Vermont, Ohio, and other states were occupied by nesting birds this past summer. The Massachusetts Department of Conservation developed the idea of purchasing war-surplus ammunition boxes with Pittman-Robertson funds, converting them to nesting boxes, and distributing them to suitable breeding grounds throughout the state. Other states began similar projects to alleviate the housing shortage for the wood duck.

Massachusetts studies showed that boxes placed on posts set in the water received far more response than those in trees. Squirrels, mice, and raccoons usually invaded tree nesting boxes before the woodies had a chance to use them, and only 16 per cent of those not placed on poles in water were used by ducks. Under natural conditions wood ducks nest in hollow trees, but intensive lumbering throughout their breeding range has reduced suitable nesting sites to a minimum. The success of the present program indicates that the wood duck, once seriously threatened with extermination, is here to stay.

—Wildlife Management Institute,  
Washington, D. C.

## DR. GABRIELSON HONORED

*Ludlow Griscom, Chairman of the Board, National Audubon Society, during the Society's annual dinner at the Roosevelt Hotel, New York City, November 15, 1949, presented Dr. Ira N. Gabrielson, former Director, U. S. Fish and Wildlife Service, with a bronze medal. Mr. Griscom said:*

"The National Audubon Society has originated a bronze medal, designed by Paul Manship, which is awarded from time to time to a man of eminence who has rendered outstanding service to conservation. The chief reason we are gathered here tonight is to honor a great American, of international renown, ornithologist and wildlife management expert, Ira N. Gabrielson. Originally a country boy from Iowa, he switched from chemistry to biology at college, with the discovery that there was a science of living nature. In common with most of his professional colleagues, he is unable to remember when he had not been interested in nature, birds and flowers. He joined the Biological Survey in 1915 as an assistant in economic ornithology, devoting himself in succession to food-habits research, rodent control, game management and wildlife research, most of the time in the field in the western states. He became director in 1935, and his regime witnessed a spectacular growth in the number and size of the wildlife refuges, and steady improvement in managing and developing them. His executive genius, honesty and sincerity were such that his projects were endorsed by his superiors, and he usually succeeded in getting the necessary monies from Congress.

"The great general of a great army of wildlife experts and technicians found time to do other things. A steady stream of papers on plants, mammals, and birds has flowed from his pen over the years, capped by his book 'Birds of Oregon,' and two more on conservation and wildlife refuges. His personal field experience with North American birds is one of the greatest in history, and he is in the front rank of the



Ludlow Griscom (left) presenting medal to Dr. Gabrielson. Photograph by H. W. Kitchen, Jr.

ornithologists of the day. Now Dr. Gabrielson is president of the Wildlife Management Institute, continuing a useful and distinguished career.

"I have the opportunity of publicly acknowledging for the first time some of my personal indebtedness to him. I have had a good deal of field experience with American birds myself, and our mutual enjoyment of this activity has been a bond between us for years.

"My field work began in the first decade of the century, when our native birds were at their all-time low. In the East at least, there were nearly 100 species of birds which had become rare or largely extirpated. Thanks first to the Audubon Society and later to the federal refuge program, the very great majority of these birds have not only been conserved, but have markedly increased in numbers and are now much less restricted in range than in my youth. This change has cumulatively been for me one of the most fortunate events in a happy and interesting life, and my thanks are due to Dr. Gabrielson for a substantial share of it.

"Nominated unanimously by a special committee, the directors of the National Audubon Society take pleasure in awarding its medal to Dr. Gabrielson. As chairman of the board it is my privilege to read the following citation:

"Ira Noel Gabrielson, one of the greatest wildlife management experts and conservationists our era has produced, able executive and administrator, ornithologist and naturalist, whose multiple achievements have given him a fame which has

*Continued on Page 68*

# COMICAL DOWNY—C

**A pet downy woodpecker lives up to its reputation for buffoonery.**



**By Peggy Mowery**

**L**IVING on an abandoned farm near Warwick, New York, it is my father's habit, and mine, to make regular nature-observing hikes over every fascinating acre of the woods, fields and pastures of our old place. Within a few years we have gotten well acquainted with our wild neighbors, from deer mice and woodchucks to foxes and white-tailed deer, but we have given particular attention to the birds. Of the many interesting species to which we play host, downy woodpeckers are the most cheerful and cocky of all.

Last winter we had several of them regularly visit the suet we hung out for them. Each was a clown to watch and went through a performance that never varied from day to day. Arriving at the suet-post utterly famished, a downy pecks off big mouthfuls until he notices you standing close by. Instantly he pretends complete indifference to the food—sidling up and down and around, acting as if he hadn't even seen the suet, hadn't the faintest idea of taking a bite—for all the world like a small boy caught in the cooky jar.

One day last spring we found a

young downy woodpecker huddled miserably against the root of a tree. Of all the wild orphan fledglings that Dad and I have raised, not one turned out more rollicking and lively than this fellow. We had raised a bluebird, a chipping sparrow and an evening grosbeak. The bluebird, "Happy," was forever trilling; "Twitter," the chipping sparrow, made much small talk; and "Beauty," the grosbeak, was shy and lovely. But "Downy"—well, he was a bird clown. Almost everything he did was comical.

There were no parent woodpeckers around that cold spring afternoon and we couldn't locate the nest-hole in the tall maples to return the baby to. So finally we bundled him into our fieldsack and started home.

Within an hour or two after we arrived at the house, Downy was quite friendly and at ease perched on my finger. As we watched him stow away an enormous meal of bread and milk, and display typical woodpecker curiosity at his new surroundings, the puzzle as to why he had been abandoned grew deeper and deeper. He had no broken bones, no digestive ailment, and except for being weak, the fledgling was perfectly healthy.



# -Clown of the woods

*Drawings by Robert Seibert.*

But after he was warmed and fed, we noticed that he fluffed out his baby-feathers more than was natural. That was the tip-off. The bird was so badly covered with mites that the parents had abandoned it, their whole brood, and even the nest. After the mites had fatally weakened the rest of the brood, the parent birds had concentrated on the remaining one until the baby bird got up out of the nest and fell to the ground, calling to the adults which would never come.

I believe that adult birds keep a mite infestation under control by taking dust baths and then flying back to the nest still dusty. Apparently, the downy woodpecker nest was too deep in a tree limb for the dust cure to be effective.

We had treated mite infestations on other fledglings so we went to work on this one. With a cloth dampened in five per cent DDT solution we wiped the bird off lightly, using a stroking motion on the back, breast, wings and head, taking care not to get any DDT in the bird's eyes or mouth. This treatment relieved young Downy so quickly that he went to sleep still perched on my finger. He was never bothered again by mites because of the lasting residual effects of DDT.

His new nest was a medium-sized carton lined with absorbent paper towels, which were thrown away when soiled, and several lengths of tree limbs about three inches in diameter for perches, propped firmly at an angle against the sides of the box. Then the top was covered to keep it cool and dark inside.

For the next several weeks young Downy was the life of the household. If the bird heard somebody going past the box, he would whistle his loud, friendly "*peek! peek!*" and drill a lively tattoo on a perching limb to signal for a ride on my finger and a hand-out. He liked scrambled eggs best, then slivers of soft-cooked beef and wheat bread soaked in milk.

But the most interesting thing about Downy, when he drank water, was to watch his agile tongue flicker in and out incredibly fast. A wood-

**"At the last second, with those talons reaching for him, Downy nimbly hopped around to the opposite side of the tree."**



pecker's tongue is hollow, has two barbs on the end and can be extended more than two inches. The length and barbs are for reaching a worm after pecking a hole over it; the hollow tube is for literally sucking it up. We gave our Downy water with an ordinary eyedropper and he quickly learned to thrust his tongue up inside the glass tube for a drink. The bird's marksmanship was amazing—in all the times he aimed for the end of the eyedropper, he never missed once!

Downy feathered out in a few weeks and was big enough to go outside and spend his time in the trees around the yard all day. At twilight we'd step out on the porch with the feeding saucer and strike a teaspoon against the dish a few times. Almost immediately Downy flew down, because from his very first feeding on that cold spring night he had been conditioned to the fact that the sound of a teaspoon against a saucer meant food.

In his cocky, unafraid way Downy investigated every piece of wicker furniture on our front porch and learned to rock the hanging flower-basket to and fro with a flying, halfspeed landing. When he tired of gymnastics, he turned to tapping the bright metal ash trays smartly with his beak. Usually when somebody came to see about the commotion on the front porch, Downy affected an "I-had-nothing-to-do-with-it" air and sidled around the table-top completely indifferent to that fascinating ash tray.

In line with our policy of never caging a bird or other animal pet, Downy was given the freedom of the woods around our house. During the lazy summer days he buddied up with other woodpeckers there; but whenever we hiked through those woods, he flew down to the shoulder of the lead man of the "safari." The bird

spent most of his time in the woods and preferred to roost outdoors, but he came in for an hour or two every day for the evening feeding.

Toward the end of fall we visited an ornithologist friend in southern Pennsylvania. We took Downy along in his dark-box so our friend could observe his feeding and drinking habits. A real gadabout at heart, Downy liked to go driving and had become a noisy, sociable passenger perched on the edge of his box whenever we went out in the car.

Our friend's home is built on a high bluff overlooking the Delaware River. Rising from the river are wild thickly-wooded mountains, divided by beautiful, blue-misty hollows. The country is so remote that it supports bear, deer, bald eagles and many of the smaller fur-bearing animals. From our lookout terrace we watched eagles soaring in slow majestic circles against the backdrop of the green mountains just across the river.

After Downy had clowned through his feeding and drinking—and he was



## NATURE IN T

To get our cover picture of the snowy owl, Allan Cruickshank followed five wild birds on December 9, 1949 as they flew about the sand dune country of Long Island. Magazines and newspapers printing stories of the current snowy owl influx, are including the usual pictures of birds that are shot and killed, or wounded and unable to fly. Our bird's fierce, questioning stare seems to ask: "Why must we be persecuted?"



a show-off when he had an audience—he flew to a willow not far from the terrace. We all settled back for some earnest visiting. Suddenly our host's tilted chair came down with a thump and he mutely pointed at the willow tree where Downy was hopping jauntily around the trunk in plain sight.

One of the circling eagles had seen the woodpecker too, and was maneuvering for a dive. We whistled and called for Downy, but he paid no attention, tapping busily on the tree trunk, as bold and confident as though perched on the suet-post back home. Every now and then he cocked an eye nonchalantly at the eagle and then went back to drilling. Suddenly the eagle folded its wings and dove toward the woodpecker, and at the last second—with those talons reaching for him—Downy nimbly hopped around the opposite side of the tree trunk from his attacker and continued drilling.

The eagle banked heavily and flew away, screaming with rage. Downy sidled back into plain sight on the tree. For half an hour this deadly

game of hide-and-seek went on: Downy pretending complete indifference to the hovering eagle, tantalizing it into diving for him, and then hopping around the tree to safety in the nick of time. Although I felt sure that Downy could take care of himself, I was relieved when the eagle soared away high over the river.

Winter is a quieter time on the farm. We look forward to the change in seasons, with the shift in bird species and changes in wild animal ways. This winter promises not to be so quiet for us. It's really going to liven things up to have Downy come bouncing in on the back porch at twilight, whistling his loud, friendly "peek! peek!" and drilling at the door to get in. We expect to enjoy his bumptious ways until next spring when we hope he raises a bunch of equally lively youngsters in one of the maples of our front yard. Then Downy will either gradually lose his tameness or, heaven forbid, we will have a six-piece band of woodpeckers drumming on the metal ash trays on the porch!

## IN THE NEWS ★

*The following news release was sent, in early December, 1949, to newspapers from the National Audubon Society's headquarters at 1000 Fifth Avenue, New York City:*

### Audubon Society Predicts Snowy Owl "Invasion"

"FLYING GHOSTS" will be reported during the next few months because it looks like a snowy owl winter!

That's the opinion of National Audubon Society headquarters in New York which is receiving numerous reports from northern states that indicate another invasion of the large fluffy-white owls from the arctic tundra.

Flights of snowy owls southward are at-

tributed to the cyclic diseases that reduce the populations of lemmings and other rodents of the arctic regions upon which the owls live. Hunger forces them south in search of more abundant food.

Sometimes, the National Audubon Society says, these silent-winged, spectrelike birds from the north startle citizens who are accustomed to nothing more spectacular than sparrows and starlings.

During the last snowy owl winter, 1945-46, an excited St. Paul, Minn., housewife called police to report a "white ghost" sitting atop her clothes post. Investigation revealed a handsome snowy owl calmly surveying the countryside for any movement of mice or rats, favorite victims of the owls while sojourning in the United States.

At times snowy owls migrate in large numbers. During the last invasion more than 1,500 were reported in Michigan alone, of

*Continued on Page 41*

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"FLYING GHOSTS" will be reported during the next few months because it looks like a snowy owl winter!

That's the opinion of National Audubon Society headquarters in New York which is receiving numerous reports from northern states that indicate another invasion of the large fluffy-white owls from the arctic tundra.

Flights of snowy owls southward are at-

tributed to the cyclic diseases that reduce the populations of lemmings and other rodents of the arctic regions upon which the owls live. Hunger forces them south in search of more abundant food.

Sometimes, the National Audubon Society says, these silent-winged, spectrelike birds from the north startle citizens who are accustomed to nothing more spectacular than sparrows and starlings.

During the last snowy owl winter, 1945-46, an excited St. Paul, Minn., housewife called police to report a "white ghost" sitting atop her clothes post. Investigation revealed a handsome snowy owl calmly surveying the countryside for any movement of mice or rats, favorite victims of the owls while sojourning in the United States.

At times snowy owls migrate in large numbers. During the last invasion more than 1,500 were reported in Michigan alone, of

*Continued on Page 41*



# THE *Jaques*

## ARTIST AND AUTHOR — HUSBAND AND WIFE

**Honored for contributions to art and to nature literature, a man and his wife combine their talents in equally shared success.**

*All photographs by the author.*

**By Edwin Way Teale**

**R**ESIDENTS of Geneseo, Illinois, in 1893, read the following item in their local paper: "A little son of Eph Jaques, aged only six years, has developed a wonderful talent for sketching and painting, considering his age. He has had no instruction whatever, but shows a natural artistic talent worthy of development."

One hundred and twenty miles away, in Decatur, Illinois, some years later, readers of another local newspaper were startled by the headline:

**"DECATUR GIRL MEETS LORD."**

The first item signaled Francis Lee Jaques' initial recognition in art. The second, reporting a visit by Lee and Florence Page Jaques to Lord Grey

of England, reveals how things began to happen after they were married. Things have been happening ever since and they have been reported in a superb sequence of nature books that are, as Robert Cushman Murphy once put it, "for the shelf of special treasures."

During the past dozen years, the term "a Jaques book" has come to mean—like Irish linen, stainless steel or sterling silver—something distinctive and unique. The two members of this author-illustrator, husband-and-wife team, both of whom are in "Who's Who in America" because of their books, balance each other perfectly. Florence's writing—poetic, humorous and thoughtful—is matched by the strength and beauty of Lee's drawings. Florence has an "enthusi-



Since childhood, Florence and Lee Jaques have been preparing for their respective roles.

astic memory" and a hair-trigger sense of humor; Lee possesses a high regard for the virtues of accuracy. Reporting their adventures together, one in prose and the other in drawings, they produce books in which text and illustration, exuberance and accuracy, are combined into a well-rounded whole.

Since childhood, these two collaborators (who, incidentally, have restored the original and finer meaning to that word) have been preparing for their respective roles. Lee began drawing almost as soon as he could hold a pencil while Florence commenced writing poetry and stories in grade

school. Some of her early efforts appeared in John T. Frederick's "Midland" and Harriet Monroe's "Poetry." Following graduation from Millikin University at Decatur, she took advanced writing courses under John Erskine at Columbia University. It was reading "Jungle Peace," a book by William Beebe, that first stimulated her interest in nature writing.

All of her book chapters are produced in the same way. Sitting on a sofa, a pad in her lap, she scribbles out the first draft. Later she types this, paying scant attention to the warning bell of the typewriter and not infrequently discovering, in her absorption, that she has been typing in the same place at the end of the line. Six or seven revisions follow before the apparently effortless final product is achieved.

Sometimes her sentences are epigrammatic as: "The difference between warblers and no warblers is very slight." Sometimes they are poetic as her description of dish-washing on a

northern lake "with the black night all about and stars in my rinsing water." Sometimes they are whimsical as: "I always feel that a huge tree is both touched and amused when we lean against it, as we would feel if a tired chipmunk rested its head against our foot." And oftentimes they provide a vivid series of word-pictures as: "Some ducks come down gamin-like, almost like small boys sliding down a bannister, but when a canvas-back comes in, wings set and fast, with feet sternly spread, it is as impressive as the landing of a Pilgrim Father."

There are many moods to Florence's writing, and there are many moods to Lee's pictures. His early background prepared him for this versatility. His father was a roving outdoorsman, a descendant of a Huguenot sea-captain who sailed his family to the New World. He followed waterfowl down the Mississippi and shot buffalo in Nebraska. From his father, the boy learned much of wildlife lore. When Lee was 11, his family moved westward from Geneseo, Illinois, his birthplace, to central Kansas. Here he absorbed memories of the wide, windy skies he paints so superbly well. Once he saw whooping cranes passing over

Sitting on a sofa, a pad in her lap, Florence Jaques scribbles a first draft.



One of the many notebooks she has filled with the raw material of her books.



his farm, as many birds in one straggling flock as there are alive in the world today.

When he was 16, the family moved again, heading north in a two-seated spring wagon on a trek from Abilene, Kansas, to Aitkin County, Minnesota. Lee walked most of the way. The new home was a hewn-log cabin with the Mississippi flowing on three sides of it as it made a wide loop some 200 miles, as the crow flies, from its source. In the years that followed, while Lee hunted or swung an ax in the dark northern woods, fired locomotives on the iron-ore run to the north shore of Lake Superior, worked in a shipyard and went to France with the 62nd Coast Artillery in World War I, he kept sketching what he saw. For several winters, he ran a taxidermy shop in Aitkin, mounting deer heads and waterfowl, where he gained experience invaluable in his later work.

At no time did he ever receive anything that might be called formal training in art. Once when he sold some wildlife sketches to a sporting magazine, he enrolled for a correspondence course in drawing. He felt the money was wasted. The man who helped him most was the Duluth ar-

tist, Clarence C. Rosenkranz. In 1924, at Rosenkranz's suggestion, Lee sent three of his waterfowl paintings to Dr. Frank M. Chapman at the American Museum of Natural History in New York City. The result: a telegram to come East. Until 1942, when he became a free-lance artist, Lee was a member of the museum staff, painting half a hundred habitat-group backgrounds, including all those in the Whitney Wing of Pacific birds. His work is also an important part of exhibits in other museums, including the Academy of Natural Sciences, in Philadelphia, and the natural history museum at the University of Minnesota. The Jaques bird paintings are widely sold as lithographs; they have appeared on the covers of *The Saturday Evening Post*, *Country Life*, and other magazines; they have formed the color plates of outstanding ornithological volumes.

During his first weeks in New York City, Lee lived in a room near the

After a trip afield, Lee's pad is filled with sketches of birds, trees, and landscapes.

A small pocket sketchbook carried by Lee Jaques in the South Seas.



American Museum of Natural History. Used to open air and a wide prospect, he felt cramped and uncomfortable. He began watching the classified advertisements and finally discovered a room with a view overlooking the Hudson River near 145th Street on Riverside Drive. Its previous occupant, a Columbia University graduate student named Florence Page, was traveling in Europe. She returned in the fall, wanted her room back, met Lee who wanted to keep the room, and out of the good-natured rivalry that resulted they finally reached a simple solution—they got married.

That was in the spring of 1927. The next year, Lee, who had already gone on one expedition to Panama and Peru and had experienced his first hurricane in the Bahamas, was off for the Arctic with Bob Bartlett and the Stoll-McCracken Expedition. He was

gone six months and his reports on the birds he saw led Florence to pen her most famous nonsense rhyme, the one about the puffin "shaped like a muffin," a jingle that was once quoted in an international peace conference, that has appeared on the same page with William Shakespeare in an anthology and that, much to her surprise, still brings in royalties.

Covering most of one wall in the Jaques' New York apartment is a huge map of the world. It was painted by Lee. Colored lines indicate their travels, individually and together. Winding about over the Pacific, Lee's line records his 14,000-mile voyage in Templeton Crocker's *Zaca* in 1934-1935. It carried him to Robinson Crusoe's island, to Pitcairn Island, to Easter Island—with its gigantic and mysterious prehistoric statues—and to the Galapagos Islands, so important in

**In Lee Jaques' studio, a miniature railroad reminds the artist of his affection for the big steam locomotives he once fired.**





Charles Darwin's development of the theory of evolution. Probably no other bird artist in the world has spent as much time as Jaques observing and sketching pelagic species. Together, the Jaques have been in every state in the Union except Texas. Together they journeyed to the Alps for the Matterhorn group at the American Museum and when Lee was preparing material for the New Forest group, Florence accompanied him to England. It was then that Lord Grey, British Foreign Minister at the start of World War I, guided them on the same walk through the forest that he had taken with Theodore Roosevelt when the latter returned from his African expedition in 1910.

At least once a year, the Jaques head away from New York for a vacation in some out-of-the-way spot rich in bird-life—at the Gaspé, in the north woods, amid the great marshes of the Gulf. It is largely out of such adventures in wild places that their books have been made. The first, "Canoe Country," came after three weeks in the Arrowhead region of northeastern Minnesota along the old fur-trader's route to the Canadian west. Extracts from Florence's diary appeared in *The American Girl* and Margaret S. Harding, managing editor of the University of Minnesota Press, suggested she expand the material into a book with Lee doing the drawings.

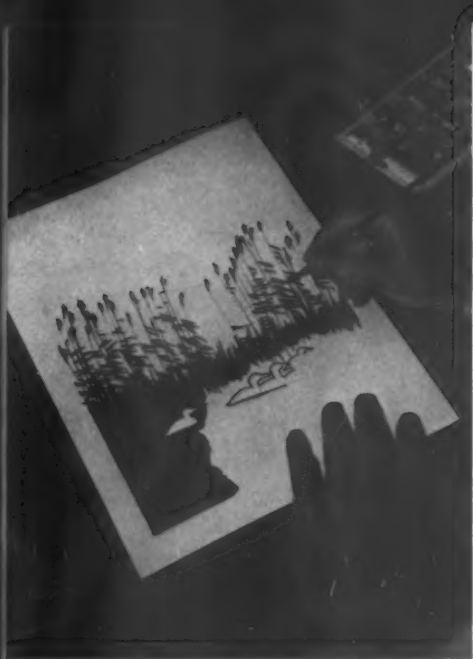
For a while, the title of the book bogged down. Florence and Lee liked "Canoe Country." The publishers were doubtful. Florence would send out a dozen titles, then another dozen, then another batch; none of them seemed exactly right to the publishers. Finally she wrote: "I will suggest one more title. On the trip, my husband did the paddling. We might call the book, 'My Husband Paddled



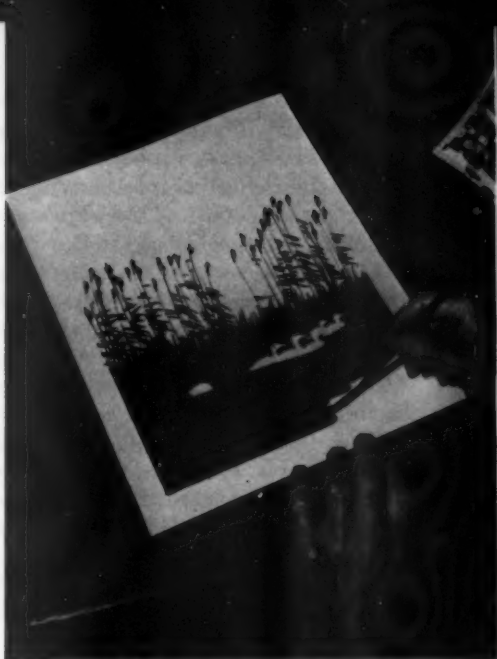
The Jaques go bird-watching among the coastal sand dunes of Long Island.

Me.'" The publishers agreed that "Canoe Country" would be better.

The book appeared in the fall of 1938. Now in a fourth edition, it was an immediate success, praised by reviewers on both sides of the Atlantic. It provided glory enough for author, illustrator and editor alike. The Jaques were given a tea by the University of Minnesota Press. They were honored at a tea by the Minnesota Library Association. They attended a tea sponsored by Florence's sorority sisters. Thus, well fortified with tea, they began an odyssey down the Mississippi, following the migrating waterfowl to their wintering grounds



**1** Lee Jaques, producing one of his black and white waterfowl drawings, first paints in grasses, then outlines the ducks.



**2** After he has brushed in the black paint, the white figures of the ducks stand out.



**3** In the next step, Lee applies black paint inside the white forms of the ducks.



**4** Using a scalpel, the artist scrapes away black paint from the heads and necks of the ducks to provide shading in a series of white lines on the black.



**5** Lee has completed his drawing and six canvasback ducks move across the water. Tall, plumed phragmites, or reed grasses, are silhouetted behind them against the sky.

along the Gulf, gathering material for their second book, "The Geese Fly High." Published in 1939, it was followed by "Birds Across the Sky," 1942; "Snowshoe Country," 1944; and "Canadian Spring," 1947. In 1946, the Jaques were awarded the John Burroughs Medal, jointly, for their outstanding work in nature literature.

In addition to the books he and Florence have prepared together, Lee has provided color plates and black-and-white illustrations for a wide variety of other volumes. They range from Thomas S. Roberts' "Birds of

Minnesota," Arthur H. Howell's "Florida Bird Life," and Robert Cushman Murphy's "Oceanic Birds of South America" to "Mammals of North America" by Victor Cahalane, "A Guide to Bird Watching," by Joseph J. Hickey, and "Spring in Washington," by Louis J. Halle. Some of Jaques' latest work is contained in "The Birds of South Carolina," by Alexander Sprunt, Jr. and E. B. Chamberlain. A few years ago, *Outdoor Life* published a book of Lee's paintings as a "Gallery of North American Game." Jaques, who has painted

*Continued on Page 68*

Our Beautiful  
Western Birds



### WESTERN AND CALIFORNIA GULLS

The big dark-backed western gull seldom strays from the coast. Every wave-washed rock and fish dock along the water front knows this clean-cut bird. The California gull, with its yellowish-green legs and red and black bill-spot, was the famous savior of the Mormon settlers. Although there are multitudes of these graceful birds along the ocean beaches, they did not, as legend would have it, come all the way from the Pacific for the sole purpose of meeting the emergency created by the cricket hordes. Scores of thousands of California gulls nest on islands out in Great Salt Lake.

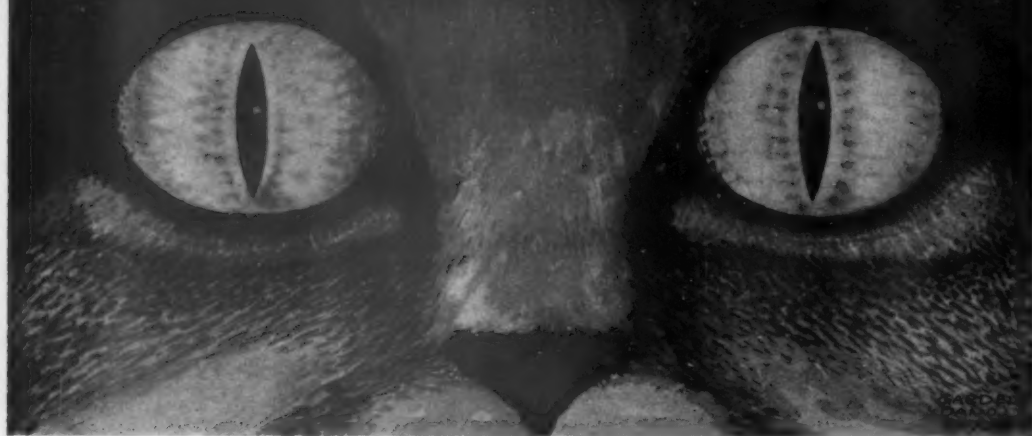


Painted by  
Roger Tory  
Peterson

### BROWN PELICAN

California boasts both pelicans: the white pelican, with its nine-foot wingspread, in the great inland valleys; and the brown pelican, shown here, along the coast. A few brown pelicans wander from their breeding colonies on the rocky islands off southern California, as far as Oregon and Washington. With a wingspread nearly that of an eagle ( $6\frac{1}{2}$  feet), the stately birds fly over the surf with their big bills resting comfortably on their chests. Spotting a fish, they pull their wings far back and plunge downwind, beak first, with a great splash. Often the gulls close in to steal the catch.





Creatures with slit pupils, like the house cat (above), are mainly those that are active both by day and by night.

## The Eyes of

Nature's marvelous adaptations fit animals for many different ways of life.



*Illustrations by Gardell Dano Christensen.*

**By Lorus J. and Margery J. Milne**

**I**F YOU ask a dozen people chosen at random to tell you a single feature by means of which a lynx, a bobcat, a mountain lion, or a domestic cat can be distinguished from any other animal, almost everyone polled will recall, after a little thought, the vertical, slit pupils in all cats' eyes.

Inquire next what a slit pupil accomplishes that is different from anything possible with a circular pupil, and the question usually goes unanswered. Yet there is a good solution

to the problem—one that gives convincing correlation with feline habits. The creatures that have slit pupils are mainly those that combine night eyes with activity in sunlight. A cat, like an alligator, is equipped for basking in sunshine, so that as Kipling said of the cat, "all places and all times of day are alike to him." The pupil shape makes the difference.

To control a round pupil found in the eyes of squirrels, rabbits and other mammals, the iris contains a muscle with fibers arranged in concentric circles. When the muscle relaxes in dim

light, the pupil opens—our own to a diameter of a third of an inch. When the muscle contracts under strong illumination, the pupil is restricted to a small hole—perhaps an eighth as far across. But no matter how much the muscle pulls, it can never shrink the circular pupil to the vanishing point or anything near that. The muscle is in its own way. The part next to the hole cannot contract to zero length no matter how much it is stimulated.

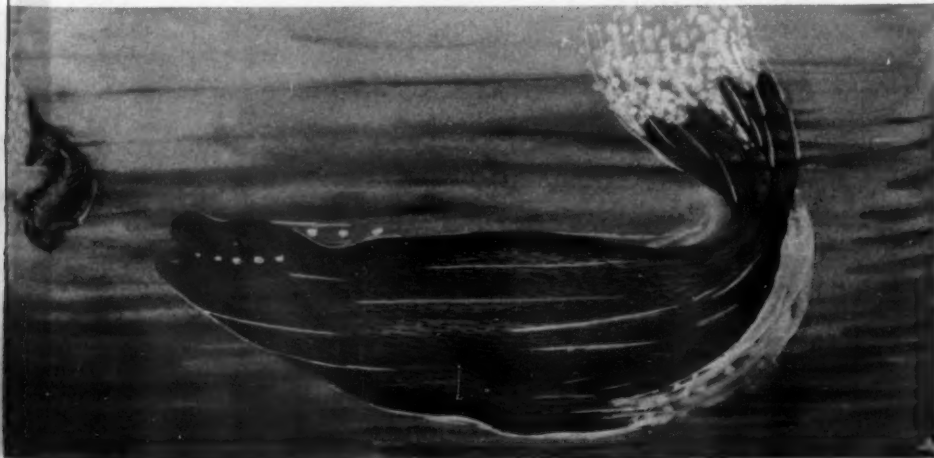
The slit pupil of cats, alligators and some other creatures is different. The two sides of the slit can be pulled together until the opaque iris from one side overlaps that from the other and the pupil is obliterated altogether. Just before this happens, the opening from daylight to the inside of the eye is the size of a pinhole. For the cat's sensi-

tive night eyes, this is fine in day vision. Actually the cat's slit pupil closes to leave a pinhole at each end of the former opening. It represents an ingenious modification of the basic design that allows even a small or medium-sized vertebrate eye to be used in dark or light. Vision is still of the night type with indistinct outlines, but in as large an eye as a cat's this is less important. Scientists are surprised that more creatures have not developed the slit pupil.

Seals also have slit pupils, but in these aquatic mammals the mechanism serves a very different use and the slit is horizontal. Seals are active in daylight. To get food they dive to considerable depths, where the illumination is far less and is filtered out by the cumulative effect of water overhead. In regions where fish and seaweeds abound in partial darkness, even at noon, the seal's pupils open widely so that they appear circular. The lens of the eye produces a good image on the light-sensitive cells of the retina, and the animal can pursue its prey. But when the diver returns to the surface to breathe, its pupils narrow and

## Mammals

Seals have slit pupils that are horizontal but they serve a different purpose from the vertical slit pupil in a cat's eyes.



permit it to see in the rarer medium.

The pupil shape to make this double vision of seals possible is remarkable. Ordinarily, an eye that is designed for vision under water is pathetically nearsighted in air; or an eye that operates normally in air is uselessly farsighted in water. This is because in the air the cornea produces most of the bending of light, the lens action which focuses an image on the retina. In water the effect of the cornea vanishes and the lens of the eye must act alone. But the seal has a strange cornea, one that is far from being spherical.

In a human eye such a cornea produces the common refractive error called astigmatism, where vertical lines are focused at one adjustment of the lens and horizontal lines at quite another. We have the oculist rectify the difficulty by means of a compensating astigmatic lens for our eyeglasses. Actually a narrow slit aligned with the axis of astigmatism would provide equal correction but restrict the view objectionably. The seal, lacking eyeglasses, employs slit pupils to see in air. When in water the cornea provides neither refraction nor errors and the pupil is wide open to see in the darker depths. But in air, the slit pupil is at right angles to one of the curvatures of the cornea, and in line with the other curvature (and the horizon). It combines with the somewhat cylindrical lens action of the astigmatic cornea to focus a good image of aerial objects on the seal's retinas, and thereby permits prompt transfer of vision from water to air. It is entirely possible that the ancestral Eskimo, who first whittled out a pair of bone sunglasses with a horizontal slit through which to view his dazzling ice-clad flat world, took his pattern from the slit pupils of the familiar seal—though his



At night, the eyes of mammals glow with reflected light.

accomplishment was less full of interest than the eyes of his suggested model.

The eyes of animals that are abroad at night often have another distinctive feature—the eyeshine that makes their visual organs glow in the semi-dark. In a complete blackout the eyeshine vanishes. These eyes are like the reflector buttons installed for safety along highways, turning back to each motorist the rays of his headlights and warning him of curves far ahead. But the eyeshine of nocturnal animals is not intended to give away their position. It is a device for increasing sensitivity to the faint illumination of mid-night, and for bettering the contrast of objects lit so feebly by starshine.

These eyes have a mirrorlike layer behind the retina, in place of the ordinary black layer of absorbing pigments. Light that fails to be absorbed as it passes through the retina, is reflected toward the pupil again, gaining a second chance to affect a visual sense cell.

The eye with a mirror backing achieves harsher contrasts though shadows lack detail. To the nocturnal animal, improved sensitivity and higher contrasts are very important gains. The eyeshine we see is a by-product of no value. It is light that missed absorption by the retina on both trips through it, and that continued out of the eye through the wide-open pupil, to be lost entirely. But in its passage it may change color through the filtering action of various

layers in the eye. Thus the eyeshine of a bear is a deep and ominous red. Deers' eyes glow with an orange yellow light that makes an inviting target for unsportsmanly riflemen who hunt them at night. Cats' eyes may glint with a greenish tint, as disembodied in the gloom as the grin of the Cheshire cat that puzzled Alice. All are reflections of our headlights or flashlamps, of light that started out a bright yellowish white.

Squirrels have solved another problem of vision. At the point in each eye where the optic nerve leaves the retina to go to the brain there are no sensitive cells and the eye is blind. Our own eyes behave in this way, but we seldom notice it because the blind regions of our two eyes do not coincide. What one eye fails to see, the other makes up for. But in an animal without good binocular vision, the blank area in the image of each eye offers a serious handicap. Keeping the

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To control round pupils, the irises of a deer's eyes have special muscles with fibers arranged in concentric circles. In dim light, the muscles relax and the pupils open; in strong light, the muscles contract and the pupils dwindle to small holes.





The eyes of a horse are the largest of any land animal.

blind spot small is not easy either, since day vision requires more nerve fibers than does night vision, and the additional fibers swell the optic nerve and hence the blind spot.

Squirrels must have good eyes to leap through the air from branch to branch. Blind spots could mean serious falls. Their solution to the difficulty is to spread the optic nerve head into a thin, horizontal ribbon where it leaves the retina, so that the blind spot is not a circular area but a thin horizontal line. It takes a negligible bite out of the image of each vertical object, so that, by raising its head slightly, a squirrel can provide con-

tinuity in trees and other important features of its surroundings. As might be expected, the many kinds of squirrels throughout the world show this special feature of the blind spot in direct proportion to their activity in daylight and the number of trees around them. The brighter the sun and the more arboreal their habits, the broader and thinner is the blind line. Kinds of squirrels that keep to deep shade or that seldom leave the ground have eyes of a more ordinary type.

Big eyes are a great advantage, and among the mammals are the largest known. Supreme in size, of course, are the eyes of the great blue whale—with



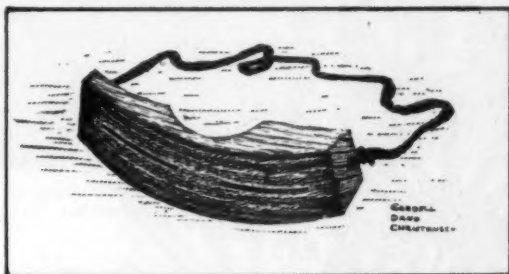
outside dimensions comparable to a grapefruit. Internally, however, the optical parts are not nearly so large; the lens, for example, is less than twice the diameter of our own. The extra bulk is mostly thick connective tissue to support the transparent cornea against the buffeting of waves.

The cat has relatively huge visual organs—only a fifth smaller in diameter than our own, and fully half as large as those of the horse. The horse has the largest eyes of any terrestrial animal (exceeding those of the elephant), and excellent vision both day and night. The Arabs have a fable in which the night vision of a large cat and a horse are contrasted. It seems

that the lion and the horse were arguing as to which had better eyesight, and they agreed upon a contest before their fellows as judges. On a dark night the test was made. The lion could see a white pearl in milk. But the horse could see a black pearl amidst coal. And the judges decided in favor of the horse.

Yet to a whale or a mouse, a cat or a horse, the world looks to be the same size, namely, as large as it actually is. For each the *mental* image must be "large as life." The chief difference between the various eyes is the degree of detail that the visual organs can capture for enlargement into this mental picture of the nearby world.

Ancient Eskimos may have patterned the horizontal slits in their bone sunglasses after the pupils in a seal's eyes.



## NATURE IN THE NEWS—

*Continued from Page 25*

which 800 were shot. According to the National Audubon Society, gunners apparently couldn't believe their eyes and had to shoot to make sure.

Many northern states, such as Illinois, Massachusetts, Minnesota, Ohio and Wisconsin, protect the snowy owl by state law, but shooters even in those states often find the unwary nature and five-foot wingspread of the owls too much of a temptation for their trigger fingers.

The National Audubon Society urges that hunters spare snowy owls, pointing out that their unique beauty and destruction of injurious rodents more than compensates for their occasional weakness for game birds and poultry. Reports of these owls should be sent to National Audubon Society, 1000 Fifth Avenue, New York 28. They will be analyzed

by the Snowy Owl Committee, a group of leading ornithologists who are studying the phenomena of owl migrations.

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## Muskrats and Fertile Soil

Some of the biggest muskrats in the United States may come from the marshes of central New York State. One captured in 1943 near Seneca Falls, New York, weighed five pounds and four ounces, and several others caught during the past decade weighed four pounds or more. Reporting in the *Journal of Mammalogy*, May, 1949, pp. 122-124, William S. Heit compares some 2½ pound Illinois, Michigan, Vermont, and Pennsylvania muskrats, with several thousand from New York State averaging about 3¼ pounds each. Heit attributes the larger size of central New York State muskrats to the fertility of the marshlands there.



*Drawing by Robert Seibert.*

Some animals, like the American bison, were doomed by civilization if market hunters had never fired a shot. The bald eagle, magnificent bird of our coastal and inland waters, is now threatened. Can we save it before it is too late?

"Thousands of acres have been cleared, evicting the bald eagle from its nesting territory."

The author bands his 1,000th eagle.  
Photograph by Charles A. Proctor.





"In 1949, 65 out of 108 Florida nests did not produce young, a nesting failure of 60 per cent." Photograph of young bald eagles by Charles A. Proctor.

## THE PLIGHT OF THE FLORIDA BALD EAGLE

By Charles L. Broley

WHEN I first went to Florida in 1939, I found ideal nesting conditions for bald eagles along the west coast from Clearwater south to Fort Myers. One might expect to find an eagle's nest for each mile of Florida coastline bordering the Gulf of Mexico where I had from 100 to 125 nests under observation each year. At that time there was an abundance of large pines there, in which the eagles prefer to build their nests.

Ten years have produced a tremendous change. Thousands of acres have been cleared of all trees to make space for market-gardening and in extensive areas, lumbermen have cut all the timber of any size, leaving few trees large enough for an eagle to build in. Housing construction all along the coast is crowding the big birds from their favorite nesting territory along the water front, and I am wondering, where in another ten years these eagles will find a place to nest. The

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black mangroves will probably always be available and I know of four eagle nests in them, where all the pine in the district has been cut, but what security does a nest ten feet from the ground afford an eagle, and how very humiliating for the King of the Air to bring his domicile to this low level!

During my 11 years of banding more than 1,000 young bald eagles in Florida and in eastern Ontario, Canada, many people have asked my opinion as to the present status of the bird. Is it increasing? Just holding its own? Or decreasing?

From 1939 to 1946 I could see little change in the nesting success of eagles in Florida. Each year, pairs that I observed brought forth broods of one or two young, with a usual nesting mortality of about 30 per cent with the exception of 1945, when nesting was badly disrupted by a hurricane. But 1947, 1948 and 1949 have been disastrous years, with nesting mortality so serious that I am deeply concerned about it.

In 1947, of 123 nests under observation, 51 produced no young, a nesting failure of 41 per cent; in 1948, of 125 nests, 60 produced no young, a failure of 48 per cent; in 1949, 65 out of 108 nests produced no young, or a 60 per cent nesting failure—a vitally serious matter. Why did 65 of 108 nests fail to produce a crop of young birds? Fortunately I had kept close watch over them and knew, in part, why some of them had failed.

In 23 nests the old birds were present, but for some unknown reason did not lay eggs; in 31 nests the eggs were laid but did not hatch; the adult eagles did not return to four nests; three were taken over by great horned owls;

"The bald eagle is not a suspicious bird. I know of eight nests that are quite close to houses." Photograph by W. Bryant Tyrrell.



"More than 80 of my banded eagles were shot and killed by irresponsible persons."  
Photograph by Allan D. Cruickshank.

and Georgia, appear to have few nests, as far as I can learn.

In 1942 on Pine Island near Fort Myers, I found 12 active nests in a tract one and one-half by six miles long, containing nine square miles of pine forests. In January, 1949, I was dismayed to find practically all the large timber had been cut and that only four nests were occupied! Many adult eagles could be seen, but they were just loafing around, loath to leave their old nesting territory, and yet, unable to find a suitable nesting site. Some of these birds may stay around Pine Island for two or three years before they decide to leave and try to nest elsewhere.

From the first thousand eagles that I banded in Florida, I have had 90 recoveries, or a known mortality of nine per cent. The bands returned to me, most of them taken from the legs of dead eagles that I had banded when they were living birds in the nest, came from practically every state east of the Mississippi and from Canadian provinces as far west as Manitoba.

The disturbing feature here is that, although a few of the birds were alive and released after being caught in fox and muskrat traps, more than 80 of them, or *90 per cent of those on which I had returns*, were shot and killed by irresponsible persons. All bird lovers are familiar with this type of wanton killer, to whom any wild creature, particularly large spectacular ones, are eagerly sought targets.

In my lifetime, I can recall several people who were particularly sordid examples of this type of humanity. I remember a man of this caliber who was, of all things, an evangelist! I was a young man when he arrived in my

trees supporting three nests were cut down; and boys robbed one nest of its eggs.

This analysis of 65 nesting failures is both disturbing and puzzling. Why did 23 pairs of eagles fail to lay eggs after repairing their nests? Why was it that the eggs in 31 nests failed to hatch? These are questions that, unfortunately, I cannot answer. As Joe Hickey, Wildlife Management Department, University of Wisconsin, said in a letter to me: "Bird study would not be a lifetime hobby if we could catch up with all the answers in one year. Some of these problems will help to keep you young."

In the eastern United States, there are two definite nesting concentrations of the bald eagle; the Chesapeake Bay area of Maryland and the State of Florida. North and South Carolina,



home town and the local clergyman asked me to take him fishing one Saturday afternoon. We got some minnows and started out. A red-shouldered hawk settled in a nearby tree. I was startled when he looked at the bird a moment and then said, "I should have brought my rifle with me, because I'm a crack shot." Rounding a point we came in sight of two loons and again he lamented the fact that he had no rifle.

"I could pick the heads off those birds with my first shot," he remarked.

I suggested that the birds were more interesting alive than dead, but this did not appear to impress him. I was beginning to feel the boat was too small for the two of us, and on the pretext of changing the water on the minnows, I allowed them all to escape into the lake and notified this Ambassador of Peace and Good Will on Earth, that we were going home. His mania for killing birds did not seem at all compatible with the gentleness and mercy associated with his profession and I refused thereafter to take him out again.

A few years ago the president of a certain bird society told me that he would like to shoot a whistling swan. When he read the astonishment on my face, he weakly explained that he had been a great hunter in his time and had killed practically everything but a swan and would like to be able to say that he had added that bird to his list of trophies. I mention these incidents to emphasize that we must campaign continually for the preservation of wildlife for if we find this mania for killing festering in the minds of well-educated men, it is little wonder that more than 80 of my banded eagles were shot by some of the thousands of hunters that take to the fields each fall.

What excuse was given for shooting these eagles? Usually the shopworn statement, "They were bothering my chickens," or "I found the bird dead on the beach or beside the road."

When I hear of a man who is hostile to bald eagles and has been shooting at them near the nest, I approach this fellow very cautiously. If, on my first interview, I should threaten to prosecute him, it usually antagonizes him and increases his unfavorable attitude towards the birds.

My first approach is to call on the man and cultivate his acquaintance for two or three weeks, even if I do not like him. I find out what he is interested in, but I do not mention eagles. Then I bring him some cigarettes from time to time and casually mention that I am very much inter-

The largest bald eagle nest that the author has seen. It is 10 feet wide, and weighs about a ton. Photograph by [unclear]



ested in the eagle's nest nearby. I tell him I would like to band the young when they are large enough, and also ask him if he would like to go along and help me. Usually he is curious to know what it is all about and it doesn't require much coaxing to get him to go along. After banding the young ones, I promise to advise him if I get a recovery. Every time that I have gained such a man's interest, he leaves the birds alone.

While I do not for a moment overlook the serious effects of shooting of eagles, I am of the opinion that the rapid decline in nesting during the past three seasons in Florida, which might possibly continue, is the most dangerous threat at present, to the status of the bird in Florida. Referring to my figures for 1949, where 65

ant the author has seen is 18 feet deep, 9½  
n. Photograph of nest by Hugo H. Schroeder.



"The young eagles start their northward migration under a great disadvantage. In Florida, they have become accustomed to people and are not wary." The author's 932nd banded eagle, photographed by Alexander Sprunt, Jr.

out of 108 nests went wrong, causing the non-production of some 97 young birds (1.5 per nest being the average) this one season's loss is more than my 90 birds reported shot during the past ten years. The solution in Florida would be the establishment of more reserves such as the Everglades National Park where the eagles could nest undisturbed and in safety.

Dr. Herbert R. Mills of Tampa and I estimate there are about 450 bald eagle nests in Florida. In another decade the adult eagles occupying these nests will be hard pressed to find other suitable sites after their nesting trees are cut down. Georgia and the Carolinas still have an abun-

dance of big timber, but I doubt if the Florida eagles would move there from the land of their birth. After the nesting season, the adults move north in June but they are all back again in September or early October to reclaim their nest sites. The young move north in May and do not return until November or December. Of ten Florida "recoveries," not one of them came during the period from June to October, inclusive, in any year. I have had no recoveries north of Florida in January, February or March, the months during which the young have all returned to Florida where they will eventually nest. This makes evident the importance of maintaining suitable nesting areas in this state.

Many landowners, when clearing their land for market gardens, frequently leave an "eagle tree" uncut. I sometimes wonder if this is wise, for the reason that frequently when the bird is incubating, men working close to the nest for a few days, keep the eagle off her eggs, which become chilled and do not hatch. I have seen this happen frequently. It might be better to cut the tree and thus have the birds locate again in wooded areas which, unfortunately, are becoming scarcer each year.

I know of eight nests that are very close to houses. The bald eagle is not a suspicious bird and as building construction approaches closer and closer to its nesting tree, the bird, quite willing to be friendly, sticks to its nest. Once I saw carpenters building a house not ten feet away from a tree in which there were two young eagles, three weeks old. The parents continued to feed and raise the young ones and returned last year again to the same tree! The householder is very proud of his eagles and no one dares molest them.

I find that police, both in Ontario and Florida, give splendid cooperation in the protection of the bald eagle. I learned this through being arrested three times in one month in Florida! People who saw me climbing up eagle nesting trees would report to police that a man was robbing the nest. The chiefs of police on the west coast of Florida all know me now and usually assure the worried informer that the "Eagle Man" is not doing any harm.

The young eagles start their northern migration under a great disadvantage. They have become accustomed to people and are not wary. Each year, I regret to say, I receive recoveries, particularly from young birds that were raised in nests near human habitations. The first recovery I received came from just north of Poughkeepsie, New York. It was from a young bird raised in one of the Florida nests near a house.

When they start their northern trek from Florida, the eagles move along fairly rapidly. Many people cooperating with me, who have a bald eagle nest in their vicinity, keep records for me of the eagles' spring departures. Last November, in checking up on one of these nests, a lady near Bradenton, Florida, informed me that the young eagles had left the previous spring on May 12. On that day, just before leaving, they sat in a dead tree not far from her house and carried on a tremendous chattering. She had said to her husband, "I believe our eagles are saying good-bye to us."

"Well," I said, "I think you were right, for I am sorry to tell you that one of the young ones was shot just two days later in North Carolina." This is the shortest time between an eagle's departure from the nest and its death that I have so far recorded. I

have several records of banded birds, killed in Canada, four weeks after leaving nests in Florida.

I think the bald eagles in eastern Ontario are holding their own where an abundance of big timber will be available for many years to come. I have some 15 nests in a radius of 20 miles from my Ontario camp and I have seen little change in their numbers in the past 40 years. The northern eagle is more prolific than the southern species and very frequently raises three young each year, compared with the average of two, or sometimes only one young one in the Florida nests.

Recently, recoveries of Florida eagles have been reported in northern Ontario and one from 200 miles north of Winnipeg, Manitoba. I believe that many young Florida eagles move right up into the sub-arctic regions for the summer.

The Florida eagle is decreasing so rapidly that during the next 11 years I would not care to attempt to band another 1,111 eagles, even if I remain physically able to do so. Unfortunately, there will not be enough nests in all my old banding territory to even approach those figures.

The daily grass fires in Florida destroy much timber. On February 14, 1949, I found an eagle tree badly burned at the base. It was a high tree and I wondered if it were wise to climb it, but I took the chance. Mr. Harry S. Slocum of St. Petersburg was

with me and he wrote me later that the tree fell on April 6, killing the young ones. Incidentally, this raises the 1949 nesting mortality from 65 to 66 nests. I was saddened by this report, but glad that I was not included.

The eagle in Florida feeds mainly on fish and seems to prefer the catfish, which is not especially sought by anglers. Most fishermen admit that the birds are welcome to them. I have found as many as 19 catfish brought to the young eagles in one nest.

I have talked to many people who raise chickens and other domestic fowl, and they all tell me that the eagles do not bother their poultry. Of course, there may be the exception, but I have examined the contents of some 800 nests and only twice have I found the remains of domestic fowl. One year I tethered a live chicken below a nest and hid in a blind to try and get a photograph of an eagle. I am sure that the adult birds saw the chicken but they did not bother it. I have never found any remains of quail in eagle nests.

If we are to save the Florida bald eagle from its present rapid decline, we first must set aside forested tracts in that state where the bird can continue to nest undisturbed. Although it is legally protected there, we also must see to it that the laws protecting it are so rigidly enforced that the inexcusable killing of these great birds is ended.

#### **Bald Eagle Also Seriously Threatened in Alaska**

The unwarranted and senseless persecution of the bald eagle in Alaska was stimulated again last spring when the Alaskan territorial government appropriated funds for a bounty of \$2.00 to be paid for each bald eagle killed. Previously the bounty had been 50¢, then \$1.00, and finally \$2.00. Unfortunately, it was incorrectly reported in *Audubon Magazine*, November-December

1949 (see table of state laws in "A Fair Deal for our Birds of Prey") that the bald eagle is protected in Alaska.

Three identical bills are now in Congress (S. 1901, H.R.5507 and H.R.5629) to extend federal protection to this bird in Alaska. Everyone interested in saving the bald eagle in one of its last great wilderness areas should write to his own congressmen, also to

*Continued on Page 64*

# NEWS OF WILDLIFE AND CONSERVATION

By John H. Baker

President of the National Audubon Society



## Whooping Cranes Show Increase

**F**OUR young whooping cranes have returned with 29 adults to their wintering grounds in Texas, giving the big white birds new headway in their race against

extinction. The figure is very encouraging, showing an increase of four birds, as compared with the number that went north last spring.

The continental whooping crane population now stands at 36, including two captive birds at the Aransas National Wildlife Refuge on the east coast of Texas, one wild bird in Louisiana. Efforts to save the remnant of America's tallest bird are being jointly sponsored by the U. S. Fish and Wildlife Service and the National Audubon Society.

To our sorrow, we must report the natural death of the captive whooping crane, generously given to the Society by the Gothenburg, Nebraska, Rod and Gun Club; this

by the Audubon Park Commission in New Orleans were together last winter and built a nest in which two eggs were laid; that the eggs, however, proved infertile. Perhaps the lack of fertility is now explained by the age of the Nebraska captive, which we know to have been at least 14 years.

There has been a crippled wild whooping crane at the Aransas Refuge which stays there the year round and which could be captured without difficulty. This wild bird was put in the enclosure with the Louisiana captive in October and the two birds seem most congenial. The wild bird is distinctly larger and presumably a male. It is therefore fervently hoped that these two birds may mate, lay fertile eggs next spring, and successfully raise young.

The slow rise in numbers of whooping cranes is attributed to increased protection on their wintering grounds and lessened shooting of the cranes, owing to widespread publicity along their migration route.



Photograph of whooping crane by O. S. Pettingill, Jr.

while the bird was within the large natural habitat enclosure at the federal Aransas Wildlife Refuge in Texas. Readers will remember that this captive and the one loaned

## Threatened Disaster In Florida Bay

**T**HE wide, shallow waters of Florida Bay, protected by miles of natural reefs, are a vast and important spawning ground for countless varieties of

fish and other marine animals. Here, too, the multitudinous small fry, struggling for existence, find their best chance to survive. But in recent years, with fishing conditions becoming poorer elsewhere, more and more commercial fishermen have been basing along the Florida keys, particularly at Tavernier. A small group of these men have been using illegal drag seines, one of which is reported to be five miles in length. Such seines are towed astern of two or more boats and in dragging the floor of the Florida Bay "lakes" they not only catch fish and other marine animals indiscriminately but disturb the bottom habitat, including the cover so



essential to spawn and small fry. For example, last winter there were some 6,000 coot and blue-winged teal feeding on muskgrass in the upper portion of the bay. The draggers scooped through this area and tore the grass loose from the bottom. Strewn across the surface, it was soon dispersed by wind, and with it went the waterfowl. How long before that particular food patch is replaced is anybody's guess.

Using mullet as an index, it has been reported that 23,000,000 less fish of that common species were taken in Florida waters in 1948 than in 1942. The decline in the numbers of all kinds of fish, as with the spiny lobster or crayfish, has been startling in the personal experience of the Society's research associate, Robert P. Allen, during a decade in the field in the Florida Bay area.

A new state law is needed, as well as adequate enforcement of the present laws. This area is to become a part of the Everglades National Park, but is currently under the administration of the Fish and Wildlife Service, which is doing an excellent enforcement job insofar as very limited personnel and equipment permit. The National Park Service will be up against the same problem when it takes over jurisdiction unless adequate funds are made available to hire enough patrolmen and provide enough equipment of the right type to enable them to enforce the state laws and their own regulations.



Everglades National Park Ranger Station, photographed by John K. Terres.

At the rate the resources of the Bay are being destroyed, it probably will not be very long before the adverse impact will be seriously felt by birds that nest and feed there,

including the roseate spoonbills, great white herons and reddish egrets. Florida Bay, in our opinion, holds even greater potentialities than the southern mainland for wildlife restoration and spectacular tourist appeal.

### Key Deer Need Refuge

ACCORDING to most reliable present estimates, there are not more than about 60 of this species of deer alive, concentrated in a rather small section of the western group of keys. Cubans from Key West, and others, drive up by car with a pack of dogs, put the dogs in a boat and proceed to a location out of sight of the highway. The dogs run the deer until the



The Key deer is only slightly smaller than the Florida white-tailed deer (above), photographed by Allan D. Cruickshank.

latter take to the water for self-preservation. The hunters then run the deer down by boat and kill them with ax or club in order that there be no sound of shooting to attract attention. The State Highway Patrol is helping and has turned back people driving toward the region with dogs and guns. Here is further evidence of present dire need of better enforcement of existing law.

### White- Crowned Pigeons Still Being Shot

THESE beautiful pigeons which annually visit south Florida and nest there, principally in the keys, are not federally protected under the terms of the Migratory Bird Treaty Act with Canada. They are protected by Florida state law, but enforce-

ment is inadequate. Postwar land clearing and real estate development threatens to destroy feeding habitat of these pigeons, particularly wild fig and poisonwood trees, the berries of which are important foods. These trees grow principally on the larger keys on which the highway to Key West runs, and the pigeons fly regularly to those keys from the smaller keys in the bay where they usually nest. "Lots of people," reports Bob Allen, "continue to steal out for a 'mess' of wild pigeons."

### Soil Conservation Needs More Money

OUR federal government has, in the past decade or more, done such a fine job in educating private landowners as to the wisdom of practicing soil conservation that it is nothing less than tragic that the government itself, generally speaking, has practiced very little soil conservation on lands under its own jurisdiction. The Department of the Interior administers great acreages where soil conservation practices are



Photograph courtesy Soil Conservation Service.

very badly needed, the bulk of these under the administration of the Bureau of Land Management and the Bureau of Indian Affairs. Not only are soil conservation practices essential to the health and continued productivity of a large portion of these lands, but only by the adoption of such measures can the heavy silting-up of reservoirs behind many new and old dams downstream be minimized and eliminated. Recent practice of the Department has been to allocate soil

conservation activities to the Secretary's office, in whose budget it is more or less buried. The sum involved in recent years has approximated \$1,500,000—a most inadequate sum. It is unlikely that appreciable headway will be made unless adequate budgetary sums for each of the bureaus vitally concerned are sought and obtained, and provision made to discontinue the practice of treating soil conservation matters as a province of the Secretary's office. At the moment, the Department is in the embarrassing position of failing, in large measure, to practice what it preaches.

### Issue On Methods Of Control

THERE is provision in the Migratory Bird Treaty Act for the issuance of killing permits to those in possession of lands on which bird species enumerated in the Treaty are found to be doing serious damage to crops. There have been noteworthy abuses of the exercise of this discretion by the federal government, but that is another story. Serious consideration has been given to the possible adoption of policy favoring opening of a hunting season of limited local duration as a method of control, rather than continued use of the killing permit plan. The adoption of any such policy should, in our opinion, be vigorously opposed, as it would tend to completely undermine the efficacy of the Act. Many species of birds enumerated in the Treaty, now completely protected, do damage to crops here and there, at certain times. This topic will be the subject of a special article in *Audubon Magazine* in the near future.

### Recreational Area Administration

THE National Park Service is, at present, charged with the administration of many small areas, scattered throughout the country, generally described as "recreational areas." That it should continue to be responsible for such administration seems to us undesirable, except, perhaps, in a few instances where sizeable regions are involved, such as at Boulder Dam and Grand Coulee. It is our feeling that it would be much wiser policy were the National Park Service allowed to concentrate its energies and funds on the administration of national parks and national monuments—period. Only

in that way, in our judgment, can the fine policy standards with relation to the parks and monuments be successfully maintained.

### Responsibility To Future Generations

A VERY significant court decision was rendered the other day that has fundamental bearing on national, let alone state, policy with regard to the intelligent treatment and wise use of renewable natural resources. Editorial comment in the *New York Times* so well summarizes our point of view and so concisely presents the subject, that we reprint it herewith:

#### PERPETUAL FORESTS

"In upholding a decision of the highest court of the State of Washington, the United States Supreme Court has put the seal of approval on a principle that may well have profound influence on the future well-being of

Planting cut-over forest lands. Photograph courtesy Farm Security Administration.



this country. It affirmed the constitutionality of a Washington law that requires proprietors of land used for commercial logging to provide for its reforestation.

"The importance of this decision lies in its endorsement of the theory—still somewhat novel to most Americans—that private owners of the nation's renewable natural resources do not have the unqualified liberty to use and destroy them as they see fit. The court has held, in effect, that they bear a deep responsibility to the nation as a whole, and to generations yet to come, and that if they do not recognize this responsibility, the state has the right and the duty of forcing it upon them. Despite the fact that our forests and other natural resources are literally dwindling away before our very eyes, Washington is one of the few states that has such a reforestation requirement on its statute books.

"Time is truly running short; annual cut of saw-timber, with natural losses, is 50 per cent greater than annual growth. The problem is so urgent and of such importance to the welfare of this nation that if the individual forestland owner is too lazy, shortsighted or indifferent to act, and if the states are unwilling to act, the Federal Government will have to enter the picture with increased vigor.

"In any case, the words of the Washington Supreme Court set the foundation for a proper public policy on this question. The 'involute compact' between the dead, the living and the unborn, said the Court, 'requires that we leave to the unborn something more than debts and depleted natural resources. Surely where natural resources can be utilized and at the same time perpetuated for future generations, what has been called constitutional morality requires that we do so.'"

#### Hawk and Owl Literature Available

The editors of *Audubon Magazine* have received many requests for copies of "A Fair Deal for our Birds of Prey?" November-December 1949 issue, of which reprints at five cents each (three cents apiece for 100 or more) may be had by writing the National Audubon Society, 1000 Fifth Avenue, New York 28. We urge you to order copies and to distribute them

among farmers, sportsmen and conservation groups, and to call the article to the attention of the editors of your local newspaper. Copies of a "flight pattern" leaflet of eastern and western hawks, by Roger Tory Peterson, with a chart on the reverse side giving the food habits of eight species, are also available.

# Audubon Guide To Bird Attracting

A department in which our readers can share with each other what they have learned about how to attract birds.

## Birds and Food Recognition

Your new feeding station may be a "school for wild birds." Patience and understanding will help them become regular visitors.

Brown creeper photographed  
by Allan D. Cruickshank.



Pileated woodpecker photo-  
graphed by M. H. Oldham.

By John V. Dennis

ANYONE who is just beginning to feed birds finds that it takes some time before the majority of his feathered visitors get around to appearing at the feeding station. We are likely to attribute their backwardness to shyness or suspicion and this may enter into it, but when one stops to think of the long list of birds which frequent our home grounds, often nesting as close as they can to our houses, it appears that fear of humans is not the main deterrent.

Unless they receive some sort of an introduction to the food that we offer them, birds will continue to look for food where they have always found it; in woodlands, weed fields, gardens, and other places. Comparatively few of them will come without hesitation to our newly established feeding stations. Starlings and English sparrows, long accustomed to the ways of man and to finding food about his premises, usually will be

the first ones to arrive. These birds will attract others, particularly some of our native birds which also have long associated man with food. Chickadees, nuthatches, blue jays and some of the woodpeckers probably frequented the encampments of Indians, and later sought out the habitations of the settlers because of the abundance of food to be found there.

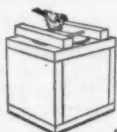
We are almost sure to have some of these familiar dooryard birds in our neighborhood and they will quickly respond to our hospitality. But what of the many other birds we would like to have for the color and variety they offer?

#### Feeding Habits of Wild Birds

If we understand that the feeding habits of birds are highly specialized and often involve mutual assistance between different species, then we can understand how difficult it may be for birds to transfer their feeding habits to the artificial surroundings of our feeding stations. Food all in a mass may be incomprehensible to them and they may not even recognize it as food.

Small woodland birds have relatively small feeding ranges. Very often they keep to a rigidly prescribed area, even during the winter. During the fall a flock of chickadees, for example, will begin to visit the same localities every day, even coming and going by the same routes. They will adhere to this pattern through the winter until spring mating introduces new territory requirements.

The chickadees won't be alone as they travel through the woods. The small woodland birds are highly gregarious and commonly half-a-dozen species will be found together. Anyone who has looked for birds in the winter woods knows how lonely and silent they can be until one of these loose



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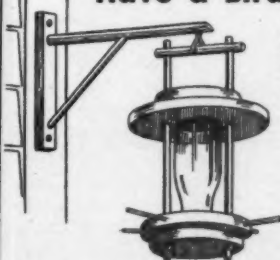
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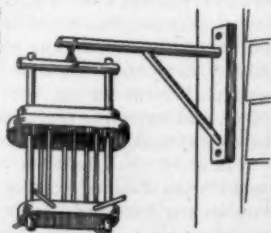


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flocks of chickadees, creepers, nuthatches, and kinglets appears.

#### **Group Feeding of Benefit to Birds**

There has been much speculation as to why birds join in these mixed groups. It is likely that many members have joined together so as to benefit from the superior ability of certain kinds to detect or expose food. Brown creepers, chickadees and kinglets, specialized in their ability to find insect eggs hidden in bark crevices, lead other birds, probably even woodpeckers, to insect-infested trees. The woodpeckers, on the



**"The most deliberate feeder was an indigo bunting." Photograph of indigo bunting by Eliot F. Porter.**

other hand, expose insect eggs and larvae useful to the smaller birds, as they knock apart bark and dead wood.

On several occasions I have seen the feeding operations of one species benefit another. One day I saw two brown creepers flying from tree to tree, making careful examinations of the bark as they went. Immediately behind them were two chickadees duplicating every move made by the creepers. On another occasion I saw a pileated woodpecker laying bare the dead wood of a stub. Perched nearby, a flicker was closely scrutinizing this mighty carpenter. As soon as the pileated woodpecker moved on, the flicker took his place, and seemed to find plenty to eat in the newly exposed dead wood.

Think of the confusion that is likely to result when a mixed flock of woodland birds reaches our backyard. Some will go directly to our feeders. Others, watching them, will suspect the presence of food, but their deep-



**"A chipmunk began carting away the blue seeds." Photograph by Karl H. Maslowski.**

seated adherence to long established feeding habits will prevent them from investigating. They will feed aimlessly for awhile in nearby trees and then, perhaps, disappear into the woods. The unifying force of the flock has been temporarily broken.

#### **Birds Will Try Different Kinds of Seeds**

Most birds, if we exclude those already mentioned which are very adaptable, will only slowly broaden their perception to include new feeding patterns. To make some tests on birds which were already in the habit of visiting my feeders, I placed a tray with eight compartments in a shady spot on the ground. Each tray contained foods generally favored by many birds. I soon noted differences among the various species that came here to feed. Mourning doves,

**"Mourning doves sampled everything." Photograph of mourning dove by Allan D. Cruickshank.**



which are well adjusted to human environments, were inclined to experiment. They sampled every type of food I used and ate until they were satiated. One bird sampled food from all eight compartments and then began the process all over again. Before the second round was completed the bird collapsed in a millet compartment, too over-stuffed to move.

Purple finches always went directly to the sunflower seed. If these were not available they half-heartedly tried some of the other foods. Song sparrows proved very restless, alternately feeding at three or four compartments. Catbirds came individually, vigorously wagging their tails. Each compartment was closely examined by them until the peanut hearts were found and these were always eaten avidly. Chickadees after alighting on the edge of the tray, made short hops in the direction of their favorite foods. Sometimes they sampled other foods as though to satisfy their inquisitive natures. Blue jays arrived individually, looking cautiously to the right and left, and once sure of the surroundings, hastily gulped down mouthfuls of food.

The most deliberate feeder was a brilliant male indigo bunting. He always went directly to an end compartment which contained Hungarian millet. Not once did I see him so much as glance at any of the other foods. I decided to test his adherence to this one corner of the tray, substituting red millet for the Hungarian. When he returned he began feeding without hesitation on the red millet. But when I substituted peanut hearts for the red millet, he finally decided to look around a bit and moved to the red millet, now in another compartment. By continuing to shift the food around I finally compelled him to change his feeding habits. As a result he was soon eating four types of grain instead of one.

#### ***Bird Recognition of Camouflaged Seeds***

A more extreme test of the ability of birds to recognize food can be made by changing the appearance of the foods which they have been accustomed to eating. My first test was with sunflower seed which was receiving the undivided attention of purple finches. Buried under a film of sand the seed went unnoticed. But when I dusted them with flour the seeds were readily found and eaten. Next I painted the seeds a bright red. Not one of the red seeds was used although they

remained on the tray for weeks. A less effective camouflage was that of dyeing the seeds blue, for the birds recognized them after a few hours. A chipmunk had keener perception. He began carting the blue seeds away in the pouches of his cheeks shortly after I made them available. Using vegetable dyes I then proceeded to dye white bread different colors and placed it on the feeder. Undyed white bread and orange bread soon disappeared, but yellow, pink, red and green bread went untouched.

#### ***Other Tests***

By presenting foods in other than the usual manner, I made additional tests. For example, I had always put peanut butter in the holes of hanging logs. As an alternative I put peanut butter in jar caps and placed them on the feeding trays. Although a wide variety of birds had made what might seem to us the difficult adjustment of eating peanut butter from a hanging log, the peanut butter in the jar caps went almost untouched. Actually a greater adjustment was necessary in order to eat from a receptacle than from a hanging log.

Another test I made was to place ripe mulberries on the feeding tray. Scores of birds were coming to the mulberry trees in search of them, but on the feeding tray they were ignored. During the winter I placed lettuce seeds on the tray, knowing how popular they had been with goldfinches in the vegetable garden. Although many goldfinches were coming to the feeders, the lettuce seeds went untouched.

These tests indicate that birds prefer their food under natural conditions. Yet the reverse is sometimes true. The heads of sunflower seeds in my garden were scarcely touched while seeds scattered on the trays were always well received. It is quite possible that many birds accustomed to eating such grains as canary seed and millet at our feeders wouldn't recognize the plants in a field.

Thus in considering ways and means of getting birds to our feeders, we not only have problems in location of feeders, types of food, cover and aggressive species, as described in previous issues, but also the matter of conditioning and adjusting certain birds to our environment. We may end up by wanting to call in a bird psychologist but, in the meantime, we can have a lot of fun trying out some original experiments of our own.

FEBRUARY



Announcing A U

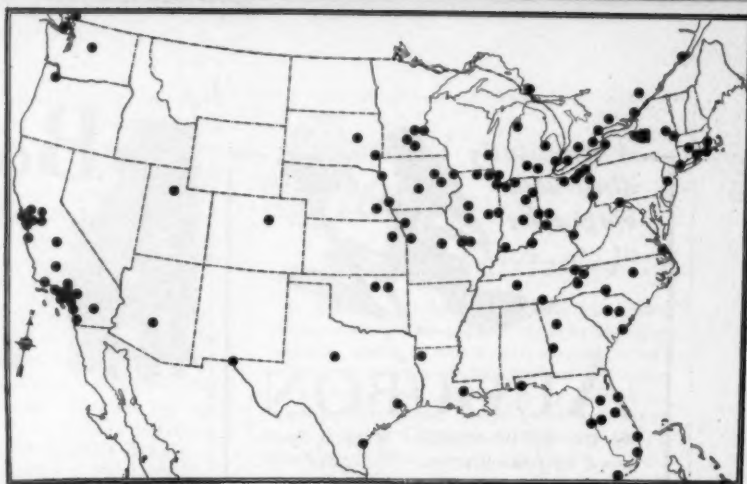
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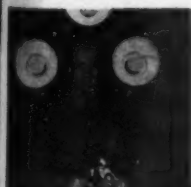
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# Book Notes

By John K. Terres

## THE BIRDS OF CONCORD: A STUDY IN POPULATION TRENDS

By Ludlow Griscom, Harvard University Press, Cambridge, Mass., 1949. 5½ x 8 in., 340 pp. Illus. with photographs. Indexed. \$5.00.

Ludlow Griscom, one of our most accomplished and respected ornithological field workers, is Research Curator of Zoology, Museum of Comparative Zoology, Harvard University, and chairman of the Board of Directors, National Audubon Society. Following "The Birds of Nantucket," by the author and Edith V. Folger, this is the second of a series of faunal studies from areas of Massachusetts which are of exceptional interest for their variety and abundance of birdlife and excellent historic record.

In preparation, intermittently, for 13 years, it presents not only the author's highly-respected conclusions and scientific records, but those of 200 other field-workers active in recent decades in the Concord, Massachusetts region, and half-a-century of bird observations by William Brewster and earlier members of the Nuttall Ornithological Club. More than 80 years of data were available to the author in his study of population trends in birds which he describes as "a form of biological inquiry still in its infancy."

The book is divided into two parts: Part I, Population Trends; Part II, The Birds of the Concord Region. The area studied, covering about 100 square miles with a human population of 15,000, centers around the river valleys of the Sudbury and Assabet in Middlesex County, Mass. Some of the author's conclusions are: that a large percentage of local birds in that area have changed their status once, or even twice, during the past 80 years; that, contrary to our usual

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acceptance of man's occupation of the land as detrimental to birds, our civilization has given 100 New England species their greatest boom since the Ice Age; major climatic cycles are required to cause major population shifts of birds; unusually early and warm spring weather over eastern North America advances the northern migration of birds from tropical America by a few days only.

The Birds of Concord is a rich and rewarding book; every sentence is packed with the meaningful wisdom of a man who has devoted his life to the study of birds and their relations to environments. Few of us can afford to be without a book that so thoroughly analyzes a long, local historic record of birds and modern methods for their study.

#### SOUTH CAROLINA BIRD LIFE

By Alexander Sprunt, Jr., and E. Burnham Chamberlain, Edited by E. Milby Burton, University of South Carolina Press, Columbia, S. C., 1949. 7 1/4 x 10 1/4 in., 585 pp. Illus. with color plates and photographs. Indexed. \$10.00.

In 1910, the Charleston, South Carolina, Museum published Arthur T. Wayne's book, "The Birds of South Carolina," the first state bird book ever to be produced in the southeastern states. Twenty-one years later, after Wayne's death, Alexander Sprunt, Jr. and E. Burnham Chamberlain, indefatigable field workers and devoted students of this remarkable man, revised Wayne's book which was published by the Charleston Museum, this time under the title, "Second Supplement to Arthur T. Wayne's Birds of South Carolina." In the present book, authors and publishers have again collaborated in producing a state bird book that for beauty, interesting historical record, scientific accuracy and ease of reading can scarcely be excelled.

A chapter on the history of ornithology in South Carolina, an ornithological history that is one of the richest in this country, includes Mark Catesby, Audubon and Bachman, Coues, Loomis, Arthur T. Wayne and others. An interesting part of this chapter is the series of brief biographical sketches of contemporary ornithologists of the South Carolina "low country," discussions of bird refuges, sanctuaries, and a "type locality" list of 77 species of birds—more valid species made known to science from this state than from any other. There are chapters on climate and the various regions from coastal

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plain to mountains, changes in environments and the study of birds.

The bulk of the book, more than 500 pages, systematically treats the 442 species of birds recorded in South Carolina—from the common loon to the eastern snow bunting. The common name of each bird is followed by the scientific name and a literal translation of the specific Latin name, an interesting feature of the book. A description of the bird, its range, status in South Carolina, nesting, general behavior, song and food habits follows. The color reproductions and photographs are unusually well done. Handsomely illustrated with color plates by Roger Tory Peterson, Francis Lee Jaques, Edward Von S. Dingle, and John Henry Dick, also with superb photographs, this volume is one that every bird enthusiast will want to add to his library.

#### HAWKS ALOFT: THE STORY OF HAWK MOUNTAIN

*By Maurice Broun, Dodd, Mead and Company, New York, 1949. 5¾ x 8½ in., 222 pp. Illus. with photographs. Indexed. \$1.00.*

Those who anticipate reading Maurice Broun's book have a pleasant surprise in store for them. Not only does the author, a capable ornithologist, tell of resident song and game birds and of great hawk flights he has observed for 12 years at Hawk Mountain, Pennsylvania, but he spins delightful tales of local people and local history; of the "haunted house" which he and his wife shared with "ghosts," wood rats, and other wild creatures; and of the strange and interesting people who have visited Hawk Mountain since 1934. The book also reveals the beautiful philosophy of a man, who with his wife, loves the sunfilled days and starlit nights of their mountain top sanctuary; its cold, heat, and storms; the magic of its changing seasons; its complete winter isolation.

The story begins with the fight of this couple to establish themselves in a community where people looked upon them as for-eigners and resented their posting of Hawk Mountain against "hawk-shooting," with threats of bodily harm. How the Brouns won over most of their enemies is an exciting tale in itself, but the chapter, "Facts and Figures of Our Flyway," is one that many readers will seek eagerly. Perched upon the Lookout rocks for 7,200 hours, or 900 eight-hour days, the author, in all kinds of weather, watched

179,000 hawks, eagles and vultures of 15 species soar by. Of these, 90 per cent were of three species—the broad-winged, red-tailed and sharp-shinned hawks. A valuable contribution to natural history literature that will be read by many bird-watchers and, it is to be hoped, by people who remain prejudiced against our interesting and valuable birds of prey.

#### THE SAGA OF THE WATERFOWL

*By Martin Bovey, The Wildlife Management Institute, Washington, D. C., 1949. 8 x 10½ in., 141 pp. Illus. with photographs, also drawings by Francis Lee Jaques. \$5.00.*

In his foreword to a beautifully illustrated picture and text story, the author says: "This book is . . . a brief account of what our forefathers have done and we ourselves are doing to bring about the end of American waterfowling . . . Had the lesson been well-learned, could we still sit idly by while ill-advised drainage continues, while unneeded dams ruin more wildlife habitat, while selfish groups try to wreck the Federal wildlife refuge system, and Congress fails to appropriate sufficient funds for a truly adequate management program?"

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#### BIRDS: A GUIDE TO THE MOST FAMILIAR AMERICAN BIRDS

*By Herbert S. Zim and Ira N. Gabrielson, Simon and Schuster, New York, 1949. 4¼ x 6¼ in., 155 pp. Illus. with color plates and sketches by James Gordon Irving. Indexed. \$1.00.*

Dr. Zim, well-known writer of natural science books, and Dr. Gabrielson, President, Wildlife Management Institute, and former director of the U. S. Fish and Wildlife Service, have written an excellent little field book "to fit your pocket when you go looking for birds." For beginners in bird study, it includes an astonishing amount of useful information. Instructions on the book's use

are followed by a chapter, "Seeing Birds," that tells where and how to look for them; why we should look for them; equipment needed. Under "Bird Classification," loons; grebes; herons and bitterns; and all other groups are described with a representative sketch of a bird species from each. There are sections on feeding, watering and planting, bird photography, bird banding, censusing and life histories studies. A page is given to each of 112 of the most familiar North American birds, with a beautiful color plate of each and brief notes on appearance, call-notes, habits, and a range map for each bird showing summer and winter distribution.

### COUNTRYMAN'S YEAR

By Haydn S. Pearson, Whittlesey House, McGraw-Hill, New York City, 1949. 6¼ x 9¼ in., 193 pp. Illus. with photographs. \$3.50.

Haydn Pearson, a contributing editor to *Audubon Magazine*, writes nature editorials for the *New York Times* and *Boston Herald*. He has written four books—"Sea Flavor," "Country Flavor," "The Countryman's Cook-

book," and "Success on the Small Farm," to which he now adds a volume that will arouse nostalgia in those who have at one time enjoyed country living. His chapter headings (really essay titles) enhance the earthy, comfortable, and often poetic mood of this book. The Magic of April, Spring Rain, Good Old Summertime, Covered Bridges, Katydid, Blue Jay—all evoke the freshness of open air, blue skies and wide fields that, to the city-dweller, recalls a sometimes forgotten way of life.

In a foreword, Dorothy Canfield Fisher

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*By Robert J. and Elsa Reichert, Mirakel Repair Company, Mount Vernon, N. Y., 1949. 8½ x 11 in., 12 pp. booklet. Illus. with photographs and line drawings. 25c.*

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**BALD EAGLE—Continued from Page 49**

Clark Thompson, chairman of the House Committee with the bills under consideration, and to Senator Johnson of Colorado, chairman of the Senate Committee, urging these men to hold hearings on these bills and to report them out, favorably, at once. An eminent authority on the wildlife of Alaska recently stated the feeling of all bird conservationists on the Alaskan situation when he said:

"It is a disgrace to have a bounty in Alaska on the bald eagle. There is no justification for it, but it does provide some money to pay for ammunition that that element of the population likes to expend in shooting at something alive. The number of eagles now present in Alaska could do no conceivable harm to any economic interest. . . . The charge against them that they eat salmon is true, but it is ridiculous to assume that the limited number of eagles along the coastal streams of Alaska have had any effect upon the hordes of salmon that migrate into the streams in good years. The nets and trolling and other gear are certainly the primary cause of any depletion, particularly illegal netting. . . ."

### Disturbed by Birds of Prey Article

I want to say a wholehearted "amen" to Alan Devoe's article, "Nature and Christmas." He has ripped away the stuffiness and irrelevance to life which one finds in much Christmas preaching and has gone to the heart of Bethlehem's eternal message. As one who is both a clergyman and nature-lover, I want to applaud this article.

In the same issue you have a deeply disturbing article by Richard Stuart Phillips on "A Fair Deal for our Birds of Prey?" I am shocked to see that my own State of Connecticut protects no hawks except the osprey and that New Hampshire, my summer home, protects nothing but eagles. Many of those who support such inadequate laws, and no doubt many of those who slaughter our valuable hawks and owls, are churchgoers. Apparently they fail to see any connection between their Christian religion and the architecture of God's created world, where hawks and owls play an indispensable part and where predators, no less than songbirds,

have a reason for being allowed to live. When man in his ignorance destroys birds which are not his enemies, but his allies, he reveals himself to be lacking not only in gray matter but also in that reverence for God's created world which is at the heart of true religion.

(REV.) ROBERT HATCH

Saint John's Parish,  
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### Pelican and Eagle Weights

Under "Nature in the News" in the September-October issue of *Audubon Magazine* in the article taken from *Parade* regarding

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the pelican, I note the weight given is 20 pounds. Allow me to relate the following incident at the home of Dr. Herbert R. Mills at St. Petersburg, Florida during the winter of 1946-47.

Dr. Mills had come into possession of a wounded brown pelican. It died one night and the next morning Dr. Mills asked me to guess its weight. I looked at the bird and without lifting it said, "14 pounds." He said, "I'll cut it in half and give you a pound," and it weighed just that—exactly six pounds!

A few years ago I was called upon to identify a large brown bird which someone had shot with the excuse that it was after his chickens. It proved to be a young though, of course, fully grown bald eagle. When we weighed it, I was surprised that it tipped the scales at only eight pounds. This, however, corresponds to that of "Zeus," the golden eagle in the article, "Bird Man's Wife," (*Audubon Magazine*, September-October 1949). The weight, particularly of our larger altricial birds—I believe like that of the pelican—is generally overestimated.

C. H. MANLEY

New Kensington, Pennsylvania

#### Weight and Diving of Pelican

When I opened my September-October copy today and looked at the fine picture of a brown pelican under the heading "Nature in the News" and read the preposterous statements under the picture I thought that, of course, it was a stunt and that an explanation in some other part of the issue would state that it was published to show how little the "NEWS" knew about birds. I can find no such statements.

Not in a spirit of criticism, but in the interests of correct science for the public I wish to state that:

No brown pelican ever approached 20 pounds weight. I think that seven pounds would be a high estimate.

The above is not too bad, but the statement that it can "dive 30 feet deep" should certainly be corrected. A pelican *cannot even go under the surface* regardless of the height from which the "dive" commences. An interesting fact is that a pelican hits the water facing in one direction and when his head comes out of the water he is facing in the opposite direction.

CHAPMAN GRANT

San Diego, California

#### A Good Word for English Sparrows

I was much interested in the pictures (Roger Tory Peterson color plates) of the house finch and white-crowned sparrow in the May-June 1949 issue and their descriptions. We had white-crowned sparrows when we lived 20 miles from Bellingham, Washington, on a farm in the country and they are one of my joys in town. A pair of them nested each spring and summer in the top of a power line pole across the street. They gathered nesting material in my yard and drank at my birdbath all summer long. They raised several broods and flocked together all the time. I have seen them bathe in my birdbath at the same time that it was occupied by English sparrows.

Now a good word for English sparrows. It has been my custom to hand-pick the cabbage worms from my cabbages. This year I've not found more than two or three all summer. The other day I saw a flock of English sparrows inspect my cabbages and I knew why I did not find cabbage worms. I have resented so many English sparrows—but I won't any more. I have always been interested in birds of all kinds.

MRS. JEANNE M. ALTMAN

Bellingham, Washington

#### Correction

In an article, "A Fair Deal for Our Birds of Prey" *Audubon Magazine*, November-December 1949, page 395, please note that the great horned owl, not the short-eared owl, is unprotected in New York State.

#### Schedule of Exhibits at Audubon House

##### FEBRUARY

Original illustrations of "South Carolina Bird Life," by Alexander Sprunt, Jr. and E. Burnham Chamberlain. Paintings by Francis Lee JAKUES, Roger Tory PETERSON, Edward Von S. DINGLE and John Henry DICK.

##### MARCH

Animal and bird sculptures by Anna Hyatt HUNTINGTON and Katherine LANE. Paintings by Emma Fordyce MACRAE.

### Eleanor King Memorial

I know the entire field was very sorry to hear of the passing of Eleanor Anthony King. The article by Alan Devoe in the September-October, 1949, number of *Audubon Magazine* was wonderful and to those of us who never knew her in person, it was certainly a graphic word picture that almost made us feel as though we had had personal contact with this lovable person. Doubtless she was difficult to replace as editor and yet the grand part is that there will still be an *Audubon Magazine* ably edited as before.

Anna-Louise Balsiger

Kansas City, Mo.

[Editor's note: The National Audubon Society is pleased to announce the creation of "Eleanor Anthony King Memorial Gift Subscriptions" to AUDUBON MAGAZINE. Persons wishing to give subscriptions as a memorial to the late editor of AUDUBON MAGAZINE may do so by designating hospitals, prisons, libraries, or individuals to whom they want the gifts sent. If you wish, the editors will

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## ABOUT THE AUTHORS

Texas-born Peggy Mowery's (*Comical Downy—Clown of the Woods*) earliest nature recollections are of traveling in the night-woods with her father and uncle, collecting moths. When she was six, she was raising butterflies in screened cages and selling the chrysalids to biological supply houses. Besides wild birds, she has had tame raccoons, a skunk, two red foxes and "Snirley," an odd, but affectionate pet opossum. Miss Mowery has had material published in *Nature Magazine*, *The New York Times Magazine*, and *The Reader's Digest*. She knows well the birds and plants of the old farm in Orange County, New York, which she shares with her father, William Byron Mowery, a well-known fiction writer.

Charles Broley (*The Plight of the Florida Bald Eagle*) was 60 years old when he retired from his position as manager of a Winnipeg, Canada, bank, a post he had held for 25 years. En route to the west coast of Florida

for a well-earned rest, he stopped at Audubon House in New York City where he learned that only 166 bald eagles had been banded in the history of American bird banding. In search of an active project, Broley seized upon the suggestion that he band Florida bald eagles and has spent the past 11 years at it.

Broley's banding has taught us that Florida bald eagles, like tourists, spend the winter in Florida and the summer in the north. Hawk watchers at Cape May and Hawk Mountain see Florida-reared eagles in September, heading back home after a summer spent in the northern states and Canada. Broley once found a horned owl brooding a bald eagle's egg, and has discovered that eagles are curio collectors. He has seen an amazing assortment of odds and ends in their nests, including electric light bulbs, corn cobs, whelk shells, a tennis shoe, a glass bottle, a golf ball and a copy of *The American Weekly*.

---

### THE JAKUES—Continued from Page 33

more species of birds than Audubon, specializes in putting the living bird in its environment. In his studio, where he works with six pairs of eyeglasses handy for use at different distances from his drawing board or canvas, miniature railroad tracks climb over mountains of books, reminders of the artist's affection for the steam locomotives he once fired.

After a trip afield, Lee comes home with pages of his pad filled with sketches of parts of birds' wings, fragments of trees, odds and ends of landscapes and wildlife that will aid him in his later work. Florence returns with observations and reflections cramming a pocket notebook. She once said that until

she met Lee she never found anyone who wanted to stay outdoors as long as she did. Both possess the gift of a sense of humor. Lee's sense of humor is dry; Florence's bubbling. You always have fun on a field trip with the Jakues, even when the birds are scarce.

When I took the picture of Florence sitting on the couch with a writing pad on her lap, I suggested that she really write something—just the first thing that came into her head. This was it:

"No! No!" cried the Goose as she laid an egg.

I have been wondering ever since what came next.

---

### DR. GABRIELSON HONORED—Continued from Page 21

gone around the world, and made America an example for other nations to study and follow. Power and prestige never destroyed his innate simplicity, his sincerity, or his belief in his life work. Friendly, magnanimous, and in deadly earnest over his convictions, he earned the success which his

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Audubon Camps are outdoor schools for ADULTS. Campers explore fields, woods, ponds, marshes and shores—and learn about rocks, soil, water, weather, plants, animals and stars. Emphasis is on interrelationships between soil, water, plants and wildlife and on practices for conservation of these natural resources.

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Feeding space,  
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Ready-to-use window sill  
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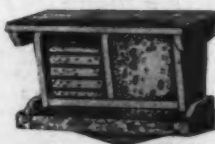


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Size 10½" x 13"

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